GO enrichment by NetBAS

HBG

This R script is used to calculate z-scores

```
rm(list=ls())
library(plyr)
library(gplots)
```

```
##
## Attaching package: 'gplots'

## The following object is masked from 'package:stats':
##
##     lowess
```

```
library(microbenchmark)
library(matrixStats)
```

```
##
## Attaching package: 'matrixStats'

## The following object is masked from 'package:plyr':
##
##     count
```

```
library(GO.db)
```

```
## Loading required package: AnnotationDbi

## Loading required package: stats4

## Loading required package: BiocGenerics

## Loading required package: parallel

##
## Attaching package: 'BiocGenerics'

## The following objects are masked from 'package:parallel':
##
##     clusterApply, clusterApplyLB, clusterCall, clusterEvalQ,
##     clusterExport, clusterMap, parApply, parCapply, parLapply,
##     parLapplyLB, parRapply, parSapply, parSapplyLB

## The following objects are masked from 'package:stats':
##
##     IQR, mad, sd, var, xtabs

## The following objects are masked from 'package:base':
##
##     anyDuplicated, append, as.data.frame, basename, cbind,
##     colMeans, colnames, colSums, dirname, do.call, duplicated,
##     eval, evalq, Filter, Find, get, grep, grepl, intersect,
##     is.unsorted, lapply, lengths, Map, mapply, match, mget, order,
##     paste, pmax, pmax.int, pmin, pmin.int, Position, rank, rbind,
```

```
##      Reduce, rowMeans, rownames, rowSums, sapply, setdiff, sort,
##      table, tapply, union, unique, unsplit, which, which.max,
##      which.min

## Loading required package: Biobase

## Welcome to Bioconductor
##
##      Vignettes contain introductory material; view with
##      'browseVignettes()'. To cite Bioconductor, see
##      'citation("Biobase")', and for packages 'citation("pkgname")'.

##
## Attaching package: 'Biobase'

## The following objects are masked from 'package:matrixStats':
##
##      anyMissing, rowMedians

## Loading required package: IRanges

## Loading required package: S4Vectors

##
## Attaching package: 'S4Vectors'

## The following object is masked from 'package:gplots':
##
##      space

## The following object is masked from 'package:plyr':
##
##      rename

## The following object is masked from 'package:base':
##
##      expand.grid

##
## Attaching package: 'IRanges'

## The following object is masked from 'package:plyr':
##
##      desc

##
```

```r
#all GO terms
go.file <- read.csv("data/human.go.csv", header=T, stringsAsFactors=F)
GO.gene <- go.file$gene
GO.id <- go.file$goid
GO.type <- go.file$type

bp.go.cat <- unique(sort(GO.id[which(GO.type == "P")]))
cc.go.cat <- unique(sort(GO.id[which(GO.type == "C")]))
mf.go.cat <- unique(sort(GO.id[which(GO.type == "F")]))

bp.hspin <- matrix(as.numeric(unlist(read.table("output/genes.bp.csv", header=F, sep=","))), ncol=1)
bp.obs <- c(bp.hspin)
bp.dim <- length(bp.go.cat)
cc.hspin <- matrix(as.numeric(unlist(read.table("output/genes.cc.csv", header=F, sep=","))), ncol=1)
```

```r
cc.obs <- c(cc.hspin)
cc.dim <- length(cc.go.cat)
mf.hspin <- matrix(as.numeric(unlist(read.table("output/genes.mf.csv", header=F, sep=","))),ncol=1)
mf.obs <- c(mf.hspin)
mf.dim <- length(mf.go.cat)
```

```r
#data from 100 permutations generated using previous R code (02.GO.Rmd)
bp.perm <- c()
cc.perm <- c()
mf.perm <- c()
for (i in 1:100) {
    bp.name <- paste("output/ms02.", i, ".bp.csv", sep="")
    cc.name <- paste("output/ms02.", i, ".cc.csv", sep="")
    mf.name <- paste("output/ms02.", i, ".mf.csv", sep="")
    bp.mat <- matrix(as.numeric(unlist(read.table(bp.name, header=F, sep=","))), ncol=1)
    cc.mat <- matrix(as.numeric(unlist(read.table(cc.name, header=F, sep=","))), ncol=1)
    mf.mat <- matrix(as.numeric(unlist(read.table(mf.name, header=F, sep=","))), ncol=1)
    bp.perm <- rbind(bp.perm, c(bp.mat))
    cc.perm <- rbind(cc.perm, c(cc.mat))
    mf.perm <- rbind(mf.perm, c(mf.mat))
}


bp.mean <- colMeans(bp.perm)
bp.std <- colSds(bp.perm)
cc.mean <- colMeans(cc.perm)
cc.std <- colSds(cc.perm)
mf.mean <- colMeans(mf.perm)
mf.std <- colSds(mf.perm)
```

```r
#Z-score calculations
bp.zscore <- c()
for (k in 1:bp.dim) {
  bp.zscore[k] <- round((bp.obs[k] - bp.mean[k])/max(1, bp.std[k]), 3)
}

cc.zscore <- c()
for (k in 1:cc.dim) {
  cc.zscore[k] <- round((cc.obs[k] - cc.mean[k])/max(1, cc.std[k]), 3)
}

mf.zscore <- c()
for (k in 1:mf.dim) {
  mf.zscore[k] <- round((mf.obs[k] - mf.mean[k])/max(1, mf.std[k]), 3)
}


bp.order <- order(-bp.zscore)
mf.order <- order(-mf.zscore)
cc.order <- order(-cc.zscore)

z.bp <- matrix(bp.zscore[bp.order], nrow=bp.dim)
z.cc <- matrix(cc.zscore[cc.order], nrow=cc.dim)
z.mf <- matrix(mf.zscore[mf.order], nrow=mf.dim)
```

```
bp.obs <- bp.obs[bp.order]
bp.mean <- round(bp.mean[bp.order],3)
bp.std <- round(bp.std[bp.order],3)
cc.obs <- cc.obs[cc.order]
cc.mean <- round(cc.mean[cc.order],3)
cc.std <- round(cc.std[cc.order],3)
mf.obs <- mf.obs[mf.order]
mf.mean <- round(mf.mean[mf.order],3)
mf.std <- round(mf.std[mf.order],3)

rownames(z.bp) <- bp.go.cat[bp.order]
rownames(z.cc) <- cc.go.cat[cc.order]
rownames(z.mf) <- mf.go.cat[mf.order]

bp.enrich.list <- rownames(z.bp)
cc.enrich.list <- rownames(z.cc)
mf.enrich.list <- rownames(z.mf)
bp.enrich.list <- rownames(z.bp)
cc.enrich.list <- rownames(z.cc)
mf.enrich.list <- rownames(z.mf)

bp.enriched.terms <- c("GO.ID", "GO.Term", "zscore", "obs", "mean", "std")
for (i in 1:length(bp.enrich.list)) {
  id <- as.character(bp.enrich.list[i])
  term <- Term(GOID(id))
  z.gene <- z.bp[i]
  bp.enriched.terms <- rbind(bp.enriched.terms, c(id, term, z.gene, bp.obs[i], bp.mean[i], bp.std[i]))
}
bp.enriched.terms
```

```
##
## bp.enriched.terms "GO.ID"
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##                   "GO:0006120"
##                   "GO:1902600"
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```

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## bp.enriched.terms "GO.Term"
##                       "mitochondrial respiratory chain complex I assembly"
##                       "mitochondrial electron transport, NADH to ubiquinone"
##                       "proton transmembrane transport"
##                       "aerobic respiration"
##                       "electron transport coupled proton transport"
##                       "mitochondrial electron transport, cytochrome c to oxygen"
##                       "mitochondrial translational termination"
##                       "mitochondrial translational elongation"
##                       "mitochondrial ATP synthesis coupled electron transport"
##                       "mitochondrial electron transport, ubiquinol to cytochrome c"
##                       "cellular respiration"
##                       "electron transport chain"
##                       "oxidation-reduction process"
##                       "ATP biosynthetic process"
##                       "mitochondrial respiratory chain supercomplex assembly"
##                       "transferrin transport"
##                       "reactive oxygen species metabolic process"
##                       "ATP hydrolysis coupled proton transport"
##                       "mitochondrial respiratory chain complex IV assembly"
##                       "mitochondrial ATP synthesis coupled proton transport"
##                       "negative regulation of fatty acid oxidation"
##                       "tricarboxylic acid cycle"
##                       "respiratory chain complex IV assembly"
##                       "ubiquinone biosynthetic process"
##                       "protein targeting to mitochondrion"
```

```
##                         "fructose metabolic process"
##                         "glycolytic process"
##                         "peptidyl-arginine hydroxylation"
##                         "ion transmembrane transport"
##                         "oxidative phosphorylation"
##                         "mitochondrial translation"
##                         "protein import into mitochondrial matrix"
##                         "protein import into mitochondrial inner membrane"
##                         "energy derivation by oxidation of organic compounds"
##                         "gluconeogenesis"
##                         "canonical glycolysis"
##                         "NADH oxidation"
##                         "very long-chain fatty acid catabolic process"
##                         "medium-chain fatty acid metabolic process"
##                         "lipid A biosynthetic process"
##                         "regulation of glutamine family amino acid metabolic process"
##                         "regulation of pyruvate dehydrogenase activity"
##                         "generation of precursor metabolites and energy"
##                         "protein lipoylation"
##                         "vacuolar proton-transporting V-type ATPase complex assembly"
##                         "response to oxidative stress"
##                         "regulation of macroautophagy"
##                         "fatty acid beta-oxidation using acyl-CoA dehydrogenase"
##                         "fructose 1,6-bisphosphate metabolic process"
##                         "neutrophil degranulation"
##                         "cristae formation"
##                         "vacuolar acidification"
##                         "mitochondrial tRNA processing"
##                         "mitochondrial tRNA 5'-end processing"
##                         "mitochondrial tRNA methylation"
##                         "mitochondrial tRNA 3'-end processing"
##                         "insulin receptor signaling pathway"
##                         "mitochondrion organization"
##                         "fructose catabolic process to hydroxyacetone phosphate and glyceraldehyde-3-phosp
##                         "ubiquinone-6 biosynthetic process"
##                         "regulation of oxidoreductase activity"
##                         "mitochondrial respiratory chain complex III assembly"
##                         "tricarboxylic acid metabolic process"
##                         "glutamine metabolic process"
##                         "regulation of acetyl-CoA biosynthetic process from pyruvate"
##                         "adenine transport"
##                         "branched-chain amino acid catabolic process"
##                         "2-oxoglutarate metabolic process"
##                         "negative regulation of ATP citrate synthase activity"
##                         "cellular response to increased oxygen levels"
##                         "microtubule-based process"
##                         "respiratory electron transport chain"
##                         "ATP transport"
##                         "apoptotic mitochondrial changes"
##                         "carbohydrate metabolic process"
##                         "positive regulation of mitochondrial translation"
##                         "pyruvate metabolic process"
##                         "ADP transport"
##                         "succinyl-CoA metabolic process"
```

```
##                       "mitochondrial electron transport, succinate to ubiquinone"
##                       "reproductive system development"
##                       "cellular response to oxidative stress"
##                       "protein homotetramerization"
##                       "ATP hydrolysis coupled cation transmembrane transport"
##                       "long-chain fatty acid metabolic process"
##                       "binding of sperm to zona pellucida"
##                       "activation of cysteine-type endopeptidase activity involved in apoptotic process
##                       "response to light intensity"
##                       "succinate metabolic process"
##                       "ATP synthesis coupled proton transport"
##                       "regulation of mitochondrial mRNA stability"
##                       "ATP synthesis coupled electron transport"
##                       "regulation of reactive oxygen species biosynthetic process"
##                       "aerobic electron transport chain"
##                       "negative regulation of mitochondrial electron transport, NADH to ubiquinone"
##                       "methylation"
##                       "phospholipid metabolic process"
##                       "biosynthetic process"
##                       "neutral lipid metabolic process"
##                       "regulation of phospholipase activity"
##                       "regulation of glutamate secretion"
##                       "negative regulation of monooxygenase activity"
##                       "regulation of acyl-CoA biosynthetic process"
##                       "negative regulation of dopamine uptake involved in synaptic transmission"
##                       "negative regulation of norepinephrine uptake"
##                       "positive regulation of glutathione peroxidase activity"
##                       "response to desipramine"
##                       "positive regulation of hydrogen peroxide catabolic process"
##                       "glycogen catabolic process"
##                       "viral release from host cell"
##                       "cell redox homeostasis"
##                       "tRNA aminoacylation for protein translation"
##                       "positive regulation of necrotic cell death"
##                       "response to hydrogen peroxide"
##                       "histone succinylation"
##                       "mitochondrial membrane organization"
##                       "heme biosynthetic process"
##                       "nucleobase-containing small molecule interconversion"
##                       "dopamine uptake involved in synaptic transmission"
##                       "ATP metabolic process"
##                       "anion transport"
##                       "acetyl-CoA biosynthetic process from pyruvate"
##                       "negative regulation of serotonin uptake"
##                       "mitochondrial acetyl-CoA biosynthetic process from pyruvate"
##                       "striated muscle contraction"
##                       "protein refolding"
##                       "negative regulation of dopamine metabolic process"
##                       "response to magnesium ion"
##                       "anion transmembrane transport"
##                       "muscle cell cellular homeostasis"
##                       "Rab protein signal transduction"
##                       "regulation of mitochondrial membrane potential"
##                       "ethanol oxidation"
```

```
##                          "fructose 6-phosphate metabolic process"
##                          "establishment of organelle localization"
##                          "isocitrate metabolic process"
##                          "amylopectin biosynthetic process"
##                          "regulation of synaptic vesicle budding from presynaptic endocytic zone membrane"
##                          "sulfur amino acid metabolic process"
##                          "regulation of synaptic vesicle recycling"
##                          "glucose import in response to insulin stimulus"
##                          "inorganic anion transport"
##                          "protein processing involved in protein targeting to mitochondrion"
##                          "negative regulation of intrinsic apoptotic signaling pathway"
##                          "hydrogen peroxide catabolic process"
##                          "response to heat"
##                          "microtubule cytoskeleton organization"
##                          "ribosome disassembly"
##                          "positive regulation of lipophagy"
##                          "granzyme-mediated apoptotic signaling pathway"
##                          "iron incorporation into metallo-sulfur cluster"
##                          "plasma membrane to endosome transport"
##                          "negative regulation of protein processing involved in protein targeting to mitoch
##                          "negative regulation of vascular endothelial growth factor production"
##                          "positive regulation of aggrephagy"
##                          "response to unfolded protein"
##                          "dopamine biosynthetic process"
##                          "galactose catabolic process"
##                          "pH reduction"
##                          "small molecule metabolic process"
##                          "GDP-mannose biosynthetic process"
##                          "response to iron(II) ion"
##                          "response to mercury ion"
##                          "negative regulation of ATP metabolic process"
##                          "glucose 6-phosphate metabolic process"
##                          "cellular oxidant detoxification"
##                          "retinol metabolic process"
##                          "negative regulation of transporter activity"
##                          "regulation of cellular ketone metabolic process"
##                          "mitochondrial respiratory chain complex II assembly"
##                          "glycine catabolic process"
##                          "glycine decarboxylation via glycine cleavage system"
##                          "cellular iron ion homeostasis"
##                          "lipoate metabolic process"
##                          "dihydrolipoamide metabolic process"
##                          "regulation of oxidative phosphorylation"
##                          "negative regulation of thrombin-activated receptor signaling pathway"
##                          "fatty acid beta-oxidation"
##                          "'de novo' protein folding"
##                          "response to vitamin B1"
##                          "negative regulation of autophagy of mitochondrion"
##                          "mesenchyme migration"
##                          "CTP biosynthetic process"
##                          "L-serine catabolic process"
##                          "cellular amino acid biosynthetic process"
##                          "subthalamus development"
##                          "pons development"
```

```
##                     "GTP biosynthetic process"
##                     "one-carbon metabolic process"
##                     "chaperone-mediated protein transport"
##                     "translational frameshifting"
##                     "positive regulation of translational termination"
##                     "estrogen biosynthetic process"
##                     "glycerophosphate shuttle"
##                     "lipid droplet organization"
##                     "protein folding"
##                     "UDP-glucose metabolic process"
##                     "CDP-diacylglycerol biosynthetic process"
##                     "negative regulation of insulin secretion involved in cellular response to glucose
##                     "regulation of norepinephrine uptake"
##                     "active induction of host immune response by virus"
##                     "positive regulation of translational elongation"
##                     "mitochondrial translational initiation"
##                     "tRNA threonylcarbamoyladenosine modification"
##                     "regulation of catalytic activity"
##                     "protein N-linked glycosylation"
##                     "negative regulation of intrinsic apoptotic signaling pathway by p53 class mediato
##                     "response to superoxide"
##                     "negative regulation of mitochondrial outer membrane permeabilization involved in a
##                     "positive regulation of receptor recycling"
##                     "peptidyl-arginine methylation, to symmetrical-dimethyl arginine"
##                     "supramolecular fiber organization"
##                     "seryl-tRNA aminoacylation"
##                     "lipophagy"
##                     "multi-organism intracellular transport"
##                     "negative regulation of intralumenal vesicle formation"
##                     "negative regulation of protein polymerization"
##                     "urea cycle"
##                     "arginine biosynthetic process via ornithine"
##                     "mitochondrial calcium ion transmembrane transport"
##                     "cellular response to unfolded protein"
##                     "peptidyl-cysteine oxidation"
##                     "cytoskeleton organization"
##                     "selenocysteinyl-tRNA(Sec) biosynthetic process"
##                     "endoplasmic reticulum tubular network membrane organization"
##                     "glutathione metabolic process"
##                     "regulation of transmembrane transporter activity"
##                     "UTP biosynthetic process"
##                     "regulation of cholesterol metabolic process"
##                     "regulation of macrophage activation"
##                     "positive regulation of telomerase RNA localization to Cajal body"
##                     "regulation of CAMKK-AMPK signaling cascade"
##                     "UDP-N-acetylglucosamine metabolic process"
##                     "NADP metabolic process"
##                     "cardiac muscle tissue development"
##                     "peptidyl-lysine deacetylation"
##                     "negative regulation of exosomal secretion"
##                     "mitochondrial genome maintenance"
##                     "chaperone cofactor-dependent protein refolding"
##                     "carbohydrate phosphorylation"
##                     "long-chain fatty-acyl-CoA biosynthetic process"
```

```
##                        "calcium ion homeostasis"
##                        "galactose catabolic process via UDP-galactose"
##                        "response to carbon monoxide"
##                        "'de novo' CTP biosynthetic process"
##                        "natural killer cell mediated cytotoxicity"
##                        "respiratory gaseous exchange"
##                        "L-threonine catabolic process to glycine"
##                        "epidermal growth factor catabolic process"
##                        "L-proline biosynthetic process"
##                        "mannose metabolic process"
##                        "selenocysteine metabolic process"
##                        "cellular response to UV-A"
##                        "phosphatidic acid biosynthetic process"
##                        "response to glucagon"
##                        "threonine catabolic process"
##                        "nucleoside diphosphate phosphorylation"
##                        "substantia nigra development"
##                        "UDP-N-acetylglucosamine biosynthetic process"
##                        "acetyl-CoA metabolic process"
##                        "cellular response to vitamin B1"
##                        "response to formaldehyde"
##                        "DNA protection"
##                        "actin filament fragmentation"
##                        "deoxyribonucleotide biosynthetic process"
##                        "fatty acid metabolic process"
##                        "negative regulation of chaperone-mediated autophagy"
##                        "protein import into mitochondrial intermembrane space"
##                        "peptidyl-lysine modification"
##                        "globoside metabolic process"
##                        "arginine transport"
##                        "lysosomal lumen pH elevation"
##                        "S-adenosylmethionine biosynthetic process"
##                        "endoplasmic reticulum organization"
##                        "protein hexamerization"
##                        "toxin transport"
##                        "cerebellar Purkinje cell layer development"
##                        "vocal learning"
##                        "tetrahydrofolate biosynthetic process"
##                        "response to cold"
##                        "regulation of COPII vesicle coating"
##                        "cellular response to osmotic stress"
##                        "positive regulation of protein localization to Cajal body"
##                        "positive regulation by host of viral genome replication"
##                        "cytolysis"
##                        "pyruvate biosynthetic process"
##                        "negative regulation of signal transduction by p53 class mediator"
##                        "removal of superoxide radicals"
##                        "arginine catabolic process to proline via ornithine"
##                        "arginine catabolic process to glutamate"
##                        "negative regulation of exocytosis"
##                        "regulation of pH"
##                        "cardiolipin biosynthetic process"
##                        "positive regulation of establishment of protein localization to telomere"
##                        "positive regulation of neurotransmitter secretion"
```

```
##                     "galactose metabolic process"
##                     "leucine catabolic process"
##                     "age-dependent response to reactive oxygen species"
##                     "acetylcholine-mediated vasodilation involved in regulation of systemic arterial bl
##                     "positive regulation of vascular smooth muscle cell differentiation involved in pho
##                     "phagosome-lysosome fusion"
##                     "cellular nitrogen compound metabolic process"
##                     "positive regulation by host of viral release from host cell"
##                     "neurotransmitter metabolic process"
##                     "oxaloacetate metabolic process"
##                     "cellular response to epinephrine stimulus"
##                     "citrulline biosynthetic process"
##                     "retinoic acid metabolic process"
##                     "protein maturation by protein folding"
##                     "T cell proliferation"
##                     "malate metabolic process"
##                     "negative regulation of inclusion body assembly"
##                     "mitochondrion morphogenesis"
##                     "citrate metabolic process"
##                     "transmembrane transport"
##                     "regulation of endoplasmic reticulum tubular network organization"
##                     "regulation of cAMP-dependent protein kinase activity"
##                     "positive regulation of proteasomal protein catabolic process"
##                     "farnesyl diphosphate biosynthetic process, mevalonate pathway"
##                     "nucleoside triphosphate biosynthetic process"
##                     "acyl-CoA metabolic process"
##                     "mitotic cell cycle"
##                     "UDP-glucuronate biosynthetic process"
##                     "glyoxylate cycle"
##                     "negative regulation of microtubule polymerization"
##                     "cellular response to UV-C"
##                     "NADH metabolic process"
##                     "porphyrin-containing compound biosynthetic process"
##                     "rostrocaudal neural tube patterning"
##                     "glucose metabolic process"
##                     "glycerol-3-phosphate catabolic process"
##                     "AMP salvage"
##                     "glutamate metabolic process"
##                     "L-lysine catabolic process to acetyl-CoA via saccharopine"
##                     "negative regulation of platelet-derived growth factor receptor signaling pathway"
##                     "glycerol-3-phosphate metabolic process"
##                     "lysosomal lumen acidification"
##                     "superoxide metabolic process"
##                     "positive regulation of inositol 1,4,5-trisphosphate-sensitive calcium-release chan
##                     "negative regulation of Fas signaling pathway"
##                     "biotin metabolic process"
##                     "retinal metabolic process"
##                     "transcription factor catabolic process"
##                     "regulation of pentose-phosphate shunt"
##                     "[2Fe-2S] cluster assembly"
##                     "diphosphate metabolic process"
##                     "neuron death in response to oxidative stress"
##                     "tRNA threonylcarbamoyladenosine metabolic process"
##                     "sulfide oxidation, using sulfide:quinone oxidoreductase"
```

```
##                   "threonyl-tRNA aminoacylation"
##                   "thalamus development"
##                   "positive regulation of ATPase activity"
##                   "response to organonitrogen compound"
##                   "positive regulation of mini excitatory postsynaptic potential"
##                   "negative regulation of ATPase activity"
##                   "atrial septum development"
##                   "protein to membrane docking"
##                   "regulation of stem cell differentiation"
##                   "regulation of insulin secretion"
##                   "regulation of glycolytic process"
##                   "aging"
##                   "B cell cytokine production"
##                   "positive regulation of T cell mediated immune response to tumor cell"
##                   "isotype switching to IgG isotypes"
##                   "chaperone-mediated protein complex assembly"
##                   "alcohol metabolic process"
##                   "actin filament depolymerization"
##                   "heme a biosynthetic process"
##                   "pyramidal neuron development"
##                   "fatty acid biosynthetic process"
##                   "L-cysteine catabolic process"
##                   "L-alpha-amino acid transmembrane transport"
##                   "glucose 1-phosphate metabolic process"
##                   "traversing start control point of mitotic cell cycle"
##                   "positive regulation of hydrogen peroxide biosynthetic process"
##                   "response to water-immersion restraint stress"
##                   "sphingomyelin metabolic process"
##                   "AMP metabolic process"
##                   "glucosylceramide metabolic process"
##                   "galactosylceramide metabolic process"
##                   "glutathione derivative biosynthetic process"
##                   "ADP biosynthetic process"
##                   "negative regulation of nitrosative stress-induced intrinsic apoptotic signaling pa
##                   "anion homeostasis"
##                   "7,8-dihydroneopterin 3'-triphosphate biosynthetic process"
##                   "pteridine-containing compound biosynthetic process"
##                   "regulation of intrinsic apoptotic signaling pathway"
##                   "iron-sulfur cluster assembly"
##                   "positive regulation of actin filament depolymerization"
##                   "response to copper ion"
##                   "cellular response to superoxide"
##                   "microglial cell activation"
##                   "translational elongation"
##                   "negative regulation of protein processing"
##                   "phagosome acidification"
##                   "lipid metabolic process"
##                   "L-serine metabolic process"
##                   "interleukin-12-mediated signaling pathway"
##                   "positive regulation of endoplasmic reticulum calcium ion concentration"
##                   "acetate biosynthetic process"
##                   "acetyl-CoA biosynthetic process from acetate"
##                   "propionate biosynthetic process"
##                   "3-keto-sphinganine metabolic process"
```

```
##                      "maintenance of protein location in mitochondrion"
##                      "viral RNA genome packaging"
##                      "positive regulation of complement activation"
##                      "aminoacyl-tRNA metabolism involved in translational fidelity"
##                      "ornithine catabolic process"
##                      "ammonia homeostasis"
##                      "glucose catabolic process"
##                      "pyrimidine nucleotide metabolic process"
##                      "lactate biosynthetic process from pyruvate"
##                      "cysteine biosynthetic process via cystathionine"
##                      "regulation of ferrochelatase activity"
##                      "Golgi to transport vesicle transport"
##                      "synaptic vesicle budding"
##                      "lysosomal membrane organization"
##                      "mitotic cleavage furrow ingression"
##                      "vesicle-mediated transport"
##                      "response to interferon-gamma"
##                      "glycogen biosynthetic process"
##                      "positive regulation of mitochondrial electron transport, NADH to ubiquinone"
##                      "negative regulation of hydrogen peroxide-induced neuron intrinsic apoptotic signal
##                      "dolichol metabolic process"
##                      "carnitine biosynthetic process"
##                      "positive regulation of inositol phosphate biosynthetic process"
##                      "tRNA processing"
##                      "protein mannosylation"
##                      "positive regulation of catalytic activity"
##                      "positive regulation of autophagy of mitochondrion"
##                      "sodium ion transport"
##                      "cysteine biosynthetic process"
##                      "response to ether"
##                      "pore complex assembly"
##                      "protein localization to endoplasmic reticulum"
##                      "positive regulation of viral process"
##                      "protein localization to mitochondrion"
##                      "UDP-glucose catabolic process"
##                      "regulation of locomotion"
##                      "cellular response to copper ion"
##                      "positive regulation of lyase activity"
##                      "positive regulation of succinate dehydrogenase activity"
##                      "positive regulation of aconitate hydratase activity"
##                      "heart contraction"
##                      "cytoskeleton-dependent intracellular transport"
##                      "amyloid precursor protein catabolic process"
##                      "nucleus accumbens development"
##                      "phagosome maturation"
##                      "adhesion of symbiont to host"
##                      "Golgi calcium ion transport"
##                      "medium-chain fatty acid catabolic process"
##                      "spindle assembly involved in female meiosis"
##                      "regulation of resting membrane potential"
##                      "anaerobic respiration"
##                      "cysteine biosynthetic process from serine"
##                      "proteolysis involved in cellular protein catabolic process"
##                      "protein ADP-ribosylation"
```

```
##                         "carnitine metabolic process, CoA-linked"
##                         "negative regulation of histone H2A K63-linked ubiquitination"
##                         "dendritic spine organization"
##                         "protein folding in endoplasmic reticulum"
##                         "olfactory pit development"
##                         "pentose-phosphate shunt"
##                         "midgut development"
##                         "positive regulation of mitochondrial membrane permeability involved in apoptotic
##                         "brown fat cell differentiation"
##                         "methionine catabolic process"
##                         "olfactory bulb mitral cell layer development"
##                         "endoplasmic reticulum calcium ion homeostasis"
##                         "positive regulation of ATP biosynthetic process"
##                         "5-phosphoribose 1-diphosphate biosynthetic process"
##                         "glutamate catabolic process to aspartate"
##                         "glutamate catabolic process to 2-oxoglutarate"
##                         "lactate oxidation"
##                         "carnitine shuttle"
##                         "S-adenosylhomocysteine catabolic process"
##                         "homocysteine biosynthetic process"
##                         "aspartate catabolic process"
##                         "aspartate biosynthetic process"
##                         "positive regulation of sodium ion transmembrane transport"
##                         "glucose import"
##                         "cellular hypotonic response"
##                         "L-aspartate transmembrane transport"
##                         "response to biotin"
##                         "tangential migration from the subventricular zone to the olfactory bulb"
##                         "positive regulation of axon guidance"
##                         "positive regulation of transforming growth factor beta2 production"
##                         "synaptic vesicle endocytosis"
##                         "hydrogen sulfide biosynthetic process"
##                         "retinoic acid biosynthetic process"
##                         "negative regulation of glial cell migration"
##                         "negative regulation of matrix metallopeptidase secretion"
##                         "positive regulation of osteoclast development"
##                         "regulation of cell death"
##                         "optic cup morphogenesis involved in camera-type eye development"
##                         "circadian sleep/wake cycle"
##                         "determination of digestive tract left/right asymmetry"
##                         "positive regulation of cellular metabolic process"
##                         "response to iron ion"
##                         "proteasome assembly"
##                         "uncoating of virus"
##                         "removal of nonhomologous ends"
##                         "regulation of phospholipid metabolic process"
##                         "actin-myosin filament sliding"
##                         "response to steroid hormone"
##                         "aspartate metabolic process"
##                         "response to platinum ion"
##                         "regulation of lung blood pressure"
##                         "response to inorganic substance"
##                         "neuromuscular process controlling posture"
##                         "fumarate metabolic process"
```

```
##                     "L-kynurenine metabolic process"
##                     "D-gluconate metabolic process"
##                     "purine ribonucleoside monophosphate biosynthetic process"
##                     "respiratory burst"
##                     "homocysteine metabolic process"
##                     "protoporphyrinogen IX metabolic process"
##                     "negative regulation of double-strand break repair"
##                     "ethanol catabolic process"
##                     "positive regulation of sequestering of calcium ion"
##                     "Cajal-Retzius cell differentiation"
##                     "positive regulation of coagulation"
##                     "negative regulation of core promoter binding"
##                     "adenine salvage"
##                     "leucyl-tRNA aminoacylation"
##                     "GMP biosynthetic process"
##                     "response to antipsychotic drug"
##                     "release of cytochrome c from mitochondria"
##                     "cellular response to heat"
##                     "cellular heat acclimation"
##                     "regulation of phospholipid catabolic process"
##                     "regulation of phospholipid biosynthetic process"
##                     "protein deglutathionylation"
##                     "glycine metabolic process"
##                     "isoprenoid biosynthetic process"
##                     "response to organic substance"
##                     "protein maturation by iron-sulfur cluster transfer"
##                     "response to insecticide"
##                     "determination of bilateral symmetry"
##                     "retinoic acid receptor signaling pathway involved in somitogenesis"
##                     "negative regulation of endoplasmic reticulum stress-induced intrinsic apoptotic s:
##                     "response to water deprivation"
##                     "glutamate biosynthetic process"
##                     "arginine biosynthetic process"
##                     "lymphocyte proliferation"
##                     "selenium compound metabolic process"
##                     "vacuolar transport"
##                     "regulation of reactive oxygen species metabolic process"
##                     "amino acid transmembrane transport"
##                     "cellular response to potassium ion"
##                     "short-chain fatty acid biosynthetic process"
##                     "regulation of myotube differentiation"
##                     "positive regulation of late endosome to lysosome transport"
##                     "regulation of chaperone-mediated autophagy"
##                     "NADPH regeneration"
##                     "nucleoside metabolic process"
##                     "adenine biosynthetic process"
##                     "ketone body biosynthetic process"
##                     "positive regulation of fast-twitch skeletal muscle fiber contraction"
##                     "NADP biosynthetic process"
##                     "positive regulation of PERK-mediated unfolded protein response"
##                     "regulation of Arp2/3 complex-mediated actin nucleation"
##                     "positive regulation of RNA polymerase II transcriptional preinitiation complex ass
##                     "positive regulation of cristae formation"
##                     "positive regulation of free ubiquitin chain polymerization"
```

```
##                     "very-low-density lipoprotein particle assembly"
##                     "regulation of proton-transporting ATPase activity, rotational mechanism"
##                     "glucose transmembrane transport"
##                     "positive regulation of nucleotide-binding oligomerization domain containing 2 sig
##                     "choline transport"
##                     "detection of glucose"
##                     "endocardial cushion morphogenesis"
##                     "meiotic mismatch repair"
##                     "activation of meiosis involved in egg activation"
##                     "regulation of fertilization"
##                     "negative regulation of monocyte extravasation"
##                     "positive regulation of CD24 biosynthetic process"
##                     "morphogenesis of embryonic epithelium"
##                     "positive regulation of autophagosome maturation"
##                     "axonogenesis involved in innervation"
##                     "pentose biosynthetic process"
##                     "positive regulation of ER to Golgi vesicle-mediated transport"
##                     "negative regulation by host of viral genome replication"
##                     "activation of protein kinase A activity"
##                     "negative regulation of transcription by RNA polymerase III"
##                     "angiotensin maturation"
##                     "skeletal muscle tissue regeneration"
##                     "positive regulation of cardiac muscle myoblast proliferation"
##                     "response to zinc ion"
##                     "ribonucleoside monophosphate biosynthetic process"
##                     "sphingolipid catabolic process"
##                     "inhibition of cysteine-type endopeptidase activity involved in apoptotic process"
##                     "xylulose biosynthetic process"
##                     "regulation of mitochondrial membrane permeability involved in programmed necrotic
##                     "carboxylic acid metabolic process"
##                     "cofactor transport"
##                     "potassium ion transport"
##                     "purine-containing compound salvage"
##                     "branched-chain amino acid biosynthetic process"
##                     "leucine biosynthetic process"
##                     "valine biosynthetic process"
##                     "positive regulation of inclusion body assembly"
##                     "plasma membrane fusion"
##                     "eye pigmentation"
##                     "response to aluminum ion"
##                     "glyoxylate metabolic process"
##                     "negative regulation of endoplasmic reticulum calcium ion concentration"
##                     "synaptic vesicle transport"
##                     "response to low light intensity stimulus"
##                     "response to tellurium ion"
##                     "CDP-choline pathway"
##                     "copper ion transport"
##                     "energy reserve metabolic process"
##                     "cellular aldehyde metabolic process"
##                     "iron import into the mitochondrion"
##                     "phosphate ion transmembrane transport"
##                     "maintenance of DNA repeat elements"
##                     "COPII-coated vesicle budding"
##                     "Golgi calcium ion homeostasis"
```

```
##                         "inositol biosynthetic process"
##                         "phosphorelay signal transduction system"
##                         "replication fork arrest"
##                         "head morphogenesis"
##                         "positive regulation of L-glutamate import across plasma membrane"
##                         "C21-steroid hormone biosynthetic process"
##                         "mitochondrial fusion"
##                         "positive regulation by host of viral process"
##                         "regulation of necrotic cell death"
##                         "positive regulation of acrosome reaction"
##                         "excretion"
##                         "deoxyribonucleoside triphosphate metabolic process"
##                         "regulation of protein catabolic process"
##                         "9-cis-retinoic acid biosynthetic process"
##                         "medium-chain fatty acid biosynthetic process"
##                         "norepinephrine-epinephrine-mediated vasodilation involved in regulation of system
##                         "heat generation"
##                         "positive regulation by organism of apoptotic process in other organism involved in
##                         "neuron-neuron synaptic transmission"
##                         "lactation"
##                         "response to manganese ion"
##                         "protein catabolic process in the vacuole"
##                         "negative regulation of smooth muscle contraction"
##                         "protein peptidyl-prolyl isomerization"
##                         "pentose-phosphate shunt, non-oxidative branch"
##                         "peptidyl-cysteine S-trans-nitrosylation"
##                         "response to interleukin-15"
##                         "regulation of mitochondrion organization"
##                         "positive regulation of protein serine/threonine kinase activity"
##                         "cellular response to alkaloid"
##                         "positive regulation of protein secretion"
##                         "pentose-phosphate shunt, oxidative branch"
##                         "homocysteine catabolic process"
##                         "skeletal muscle fiber development"
##                         "response to lithium ion"
##                         "ER-nucleus signaling pathway"
##                         "calcium ion transport from cytosol to endoplasmic reticulum"
##                         "calcium ion import into sarcoplasmic reticulum"
##                         "negative regulation of cAMP-dependent protein kinase activity"
##                         "choline metabolic process"
##                         "protein maturation"
##                         "regulation of ubiquinone biosynthetic process"
##                         "lysine catabolic process"
##                         "intracellular distribution of mitochondria"
##                         "protoporphyrinogen IX biosynthetic process"
##                         "mRNA catabolic process"
##                         "cellular response to nitrogen starvation"
##                         "mitochondrial DNA replication"
##                         "proteolysis"
##                         "SNARE complex disassembly"
##                         "dATP biosynthetic process"
##                         "cellular response to potassium ion starvation"
##                         "regulation of Golgi inheritance"
##                         "B cell proliferation"
```

```
##                       "glycerol metabolic process"
##                       "fatty acid transport"
##                       "polyamine homeostasis"
##                       "postsynaptic actin cytoskeleton organization"
##                       "sucrose biosynthetic process"
##                       "Harderian gland development"
##                       "malate-aspartate shuttle"
##                       "regulation of cardiac conduction"
##                       "behavioral response to formalin induced pain"
##                       "malonyl-CoA biosynthetic process"
##                       "liver development"
##                       "regulation of small GTPase mediated signal transduction"
##                       "mitochondrial respiratory chain complex assembly"
##                       "negative regulation of cell volume"
##                       "macroautophagy"
##                       "positive regulation of telomere maintenance via telomerase"
##                       "chronic inflammatory response to antigenic stimulus"
##                       "defense response to fungus"
##                       "negative regulation of necroptotic process"
##                       "vesicle transport along microtubule"
##                       "synaptic vesicle targeting"
##                       "response to nicotine"
##                       "positive regulation of oxidative stress-induced intrinsic apoptotic signaling pat
##                       "programmed cell death involved in cell development"
##                       "nucleobase-containing compound metabolic process"
##                       "mitochondrial outer membrane permeabilization involved in programmed cell death"
##                       "necroptotic process"
##                       "positive regulation of cytokine-mediated signaling pathway"
##                       "cellular glucuronidation"
##                       "isoleucine catabolic process"
##                       "neuronal action potential propagation"
##                       "glycolytic process through fructose-6-phosphate"
##                       "glycolysis from storage polysaccharide through glucose-1-phosphate"
##                       "L-ascorbic acid biosynthetic process"
##                       "NAD metabolic process"
##                       "response to osmotic stress"
##                       "cellular potassium ion homeostasis"
##                       "oxidation-dependent protein catabolic process"
##                       "negative regulation of oxidative phosphorylation uncoupler activity"
##                       "regulation of retrograde trans-synaptic signaling by endocanabinoid"
##                       "xenobiotic catabolic process"
##                       "carbamoyl phosphate biosynthetic process"
##                       "'de novo' UMP biosynthetic process"
##                       "pyrimidine nucleoside biosynthetic process"
##                       "box H/ACA snoRNP assembly"
##                       "valyl-tRNA aminoacylation"
##                       "late endosomal microautophagy"
##                       "smooth muscle contraction involved in micturition"
##                       "positive regulation of cilium assembly"
##                       "autophagosome assembly"
##                       "hydrogen peroxide biosynthetic process"
##                       "positive regulation of microtubule nucleation"
##                       "positive regulation of mitochondrial calcium ion concentration"
##                       "regulation of amyloid precursor protein catabolic process"
```

```
##                     "positive regulation of endoplasmic reticulum tubular network organization"
##                     "negative regulation of establishment of protein localization to mitochondrion"
##                     "cardiac septum morphogenesis"
##                     "proline biosynthetic process"
##                     "micturition"
##                     "negative regulation of protein autoubiquitination"
##                     "peptidyl-histidine phosphorylation"
##                     "regulation of endothelial cell proliferation"
##                     "response to mycotoxin"
##                     "magnesium ion transport"
##                     "transsulfuration"
##                     "determination of pancreatic left/right asymmetry"
##                     "phospholipid biosynthetic process"
##                     "phosphate-containing compound metabolic process"
##                     "response to redox state"
##                     "negative regulation of DNA damage response, signal transduction by p53 class media
##                     "positive regulation of calcium-transporting ATPase activity"
##                     "amelogenesis"
##                     "glutamyl-tRNA aminoacylation"
##                     "tRNA aminoacylation for mitochondrial protein translation"
##                     "regulation of hydrogen peroxide-induced cell death"
##                     "spermidine biosynthetic process"
##                     "response to purine-containing compound"
##                     "mitochondrial transport"
##                     "face development"
##                     "polyamine metabolic process"
##                     "positive regulation of programmed cell death"
##                     "regulation of calcium-mediated signaling"
##                     "neutral amino acid transport"
##                     "positive regulation of cAMP-dependent protein kinase activity"
##                     "response to psychosocial stress"
##                     "sperm capacitation"
##                     "relaxation of skeletal muscle"
##                     "'de novo' IMP biosynthetic process"
##                     "cardiovascular system development"
##                     "tetrahydrofolate metabolic process"
##                     "regulation of DNA-binding transcription factor activity"
##                     "positive regulation of androgen receptor activity"
##                     "negative regulation of release of sequestered calcium ion into cytosol"
##                     "purine ribonucleoside salvage"
##                     "glutamate catabolic process"
##                     "positive regulation of AMPA receptor activity"
##                     "response to methylmercury"
##                     "antigen processing and presentation"
##                     "regulation of lysosomal lumen pH"
##                     "response to epidermal growth factor"
##                     "negative regulation of RNA-directed 5'-3' RNA polymerase activity"
##                     "response to transition metal nanoparticle"
##                     "positive regulation of IRE1-mediated unfolded protein response"
##                     "protein transport"
##                     "response to cortisol"
##                     "neural fold formation"
##                     "multicellular organism aging"
##                     "acetyl-CoA biosynthetic process"
```

```
##                    "response to cAMP"
##                    "vascular smooth muscle contraction"
##                    "regulation of synaptic vesicle transport"
##                    "establishment of protein localization to mitochondrion"
##                    "cardiac neural crest cell development involved in heart development"
##                    "TORC2 signaling"
##                    "cellular response to interferon-beta"
##                    "activation of transmembrane receptor protein tyrosine kinase activity"
##                    "positive regulation of cellular glucuronidation"
##                    "killing of cells of other organism"
##                    "regulation of cellular pH"
##                    "positive regulation of endoribonuclease activity"
##                    "somatic recombination of immunoglobulin gene segments"
##                    "glyoxylate catabolic process"
##                    "positive regulation of mucus secretion"
##                    "mechanoreceptor differentiation"
##                    "tetrahydrofolate interconversion"
##                    "protein retention in Golgi apparatus"
##                    "determination of left/right asymmetry in nervous system"
##                    "mitochondrial calcium ion homeostasis"
##                    "ion transport"
##                    "regulation of cellular response to oxidative stress"
##                    "ornithine metabolic process"
##                    "positive regulation of secretion"
##                    "positive regulation of vascular associated smooth muscle cell apoptotic process"
##                    "negative regulation of MDA-5 signaling pathway"
##                    "positive regulation of macrophage activation"
##                    "4-hydroxyproline metabolic process"
##                    "righting reflex"
##                    "vitamin A metabolic process"
##                    "negative regulation of protein homodimerization activity"
##                    "skeletal muscle thin filament assembly"
##                    "cell wall mannoprotein biosynthetic process"
##                    "mannose to fructose-6-phosphate metabolic process"
##                    "regulation of protein complex stability"
##                    "autophagosome maturation"
##                    "atrioventricular valve morphogenesis"
##                    "cellular response to manganese ion"
##                    "creatinine metabolic process"
##                    "mitochondrion localization"
##                    "glycolate catabolic process"
##                    "regulation of cardiac muscle cell membrane potential"
##                    "positive regulation of tumor necrosis factor-mediated signaling pathway"
##                    "regulation of calcium ion-dependent exocytosis of neurotransmitter"
##                    "regulation of cellular response to hypoxia"
##                    "negative regulation of protein targeting to membrane"
##                    "glycine biosynthetic process from serine"
##                    "cellular response to tetrahydrofolate"
##                    "pyrimidine nucleobase metabolic process"
##                    "positive regulation of metanephric cap mesenchymal cell proliferation"
##                    "aspartate transmembrane transport"
##                    "4-hydroxyproline catabolic process"
##                    "bradykinin catabolic process"
##                    "creatine metabolic process"
```

```
##                    "cellular response to puromycin"
##                    "AMPA glutamate receptor clustering"
##                    "positive regulation of phosphatidylcholine biosynthetic process"
##                    "positive regulation of mitotic recombination"
##                    "peptide catabolic process"
##                    "skeletal muscle fiber adaptation"
##                    "sulfate transmembrane transport"
##                    "ribosomal protein import into nucleus"
##                    "negative regulation of proteasomal protein catabolic process"
##                    "early endosome to late endosome transport"
##                    "succinyl-CoA pathway"
##                    "serine family amino acid catabolic process"
##                    "2-oxobutyrate biosynthetic process"
##                    "Sertoli cell development"
##                    "response to ethanol"
##                    "daunorubicin metabolic process"
##                    "doxorubicin metabolic process"
##                    "regulation of IRE1-mediated unfolded protein response"
##                    "purine nucleotide metabolic process"
##                    "response to hydrostatic pressure"
##                    "regulation of intracellular pH"
##                    "protein import into peroxisome matrix"
##                    "metabolic process"
##                    "negative regulation of male germ cell proliferation"
##                    "positive regulation of hydrogen peroxide-mediated programmed cell death"
##                    "purine nucleobase biosynthetic process"
##                    "Golgi reassembly"
##                    "regulation of epidermis development"
##                    "negative regulation of hypoxia-induced intrinsic apoptotic signaling pathway"
##                    "diadenosine tetraphosphate biosynthetic process"
##                    "amyloid-beta formation"
##                    "progesterone metabolic process"
##                    "locomotory exploration behavior"
##                    "RNA stabilization"
##                    "oxygen homeostasis"
##                    "cellular amino acid catabolic process"
##                    "response to vitamin E"
##                    "intracellular protein transport"
##                    "dTMP biosynthetic process"
##                    "tetrahydrobiopterin biosynthetic process"
##                    "protein targeting to lysosome involved in chaperone-mediated autophagy"
##                    "olfactory nerve development"
##                    "regulation of acid-sensing ion channel activity"
##                    "negative regulation of supramolecular fiber organization"
##                    "regulation of protein import"
##                    "chaperone-mediated autophagy translocation complex disassembly"
##                    "slow axonal transport"
##                    "positive regulation of interleukin-12 production"
##                    "fibroblast apoptotic process"
##                    "phospholipid homeostasis"
##                    "positive regulation of endocytosis"
##                    "positive regulation of GTP binding"
##                    "regulation of transcription initiation from RNA polymerase II promoter"
##                    "negative regulation of ion transmembrane transport"
```

```
##                     "regulation of nucleotide-binding oligomerization domain containing signaling pathw
##                     "response to amine"
##                     "protein O-linked mannosylation"
##                     "D-serine biosynthetic process"
##                     "vascular transport"
##                     "milk ejection reflex"
##                     "negative regulation of insulin secretion"
##                     "regulation of protein folding in endoplasmic reticulum"
##                     "stress response to metal ion"
##                     "regulation of ATF6-mediated unfolded protein response"
##                     "regulation of PERK-mediated unfolded protein response"
##                     "autophagy of mitochondrion"
##                     "nucleosome assembly"
##                     "central nervous system myelin formation"
##                     "protein K27-linked deubiquitination"
##                     "response to type I interferon"
##                     "epithelial cell differentiation"
##                     "response to methamphetamine hydrochloride"
##                     "Notch receptor processing, ligand-dependent"
##                     "regulation of cytokine secretion involved in immune response"
##                     "atrial ventricular junction remodeling"
##                     "positive regulation of cell communication by chemical coupling"
##                     "positive regulation of telomerase activity"
##                     "chromatin silencing"
##                     "regulation of synapse organization"
##                     "positive regulation of monocyte differentiation"
##                     "enzyme active site formation via L-cysteine sulfinic acid"
##                     "cellular response to glyoxal"
##                     "peptidyl-cysteine deglycation"
##                     "peptidyl-arginine deglycation"
##                     "peptidyl-lysine deglycation"
##                     "protein deglycation, glyoxal removal"
##                     "protein deglycation, methylglyoxal removal"
##                     "glutathione deglycation"
##                     "regulation of TRAIL receptor biosynthetic process"
##                     "glycolate biosynthetic process"
##                     "detoxification of mercury ion"
##                     "guanine deglycation"
##                     "guanine deglycation, methylglyoxal removal"
##                     "guanine deglycation, glyoxal removal"
##                     "regulation of supramolecular fiber organization"
##                     "negative regulation of death-inducing signaling complex assembly"
##                     "negative regulation of TRAIL-activated apoptotic signaling pathway"
##                     "positive regulation of pyrroline-5-carboxylate reductase activity"
##                     "positive regulation of tyrosine 3-monooxygenase activity"
##                     "glyoxal metabolic process"
##                     "positive regulation of L-dopa biosynthetic process"
##                     "positive regulation of L-dopa decarboxylase activity"
##                     "positive regulation of oxidative phosphorylation uncoupler activity"
##                     "D-serine metabolic process"
##                     "peroxisome organization"
##                     "diet induced thermogenesis"
##                     "positive regulation of interleukin-10 production"
##                     "postsynaptic neurotransmitter receptor diffusion trapping"
```

```
##                        "ureter maturation"
##                        "C21-steroid hormone metabolic process"
##                        "positive regulation of interleukin-8 production"
##                        "retrograde vesicle-mediated transport, Golgi to ER"
##                        "maintenance of protein localization in endoplasmic reticulum"
##                        "Mo-molybdopterin cofactor biosynthetic process"
##                        "leading edge cell differentiation"
##                        "phosphatidylcholine catabolic process"
##                        "positive regulation of pinocytosis"
##                        "cell communication by electrical coupling involved in cardiac conduction"
##                        "positive regulation of Wnt signaling pathway"
##                        "TRAM-dependent toll-like receptor 4 signaling pathway"
##                        "regulation of protein ubiquitination"
##                        "embryonic eye morphogenesis"
##                        "protein insertion into mitochondrial membrane"
##                        "positive regulation of calcium ion-dependent exocytosis"
##                        "regulation of stress-activated MAPK cascade"
##                        "regulation of T cell differentiation in thymus"
##                        "negative regulation of transcription from RNA polymerase II promoter in response
##                        "positive regulation of striated muscle tissue development"
##                        "negative regulation of hydrogen peroxide-induced cell death"
##                        "neural plate mediolateral regionalization"
##                        "paraxial mesoderm structural organization"
##                        "positive regulation of cardiac ventricle development"
##                        "fibrous ring of heart morphogenesis"
##                        "regulation of neural crest cell differentiation"
##                        "UMP biosynthetic process"
##                        "chondrocyte hypertrophy"
##                        "positive regulation of proteasomal ubiquitin-dependent protein catabolic process"
##                        "chaperone-mediated protein transport involved in chaperone-mediated autophagy"
##                        "glycerol biosynthetic process"
##                        "anterograde axonal transport of mitochondrion"
##                        "otolith development"
##                        "ketone body catabolic process"
##                        "negative regulation of programmed cell death"
##                        "negative regulation of natural killer cell differentiation involved in immune resp
##                        "growth of symbiont in host"
##                        "calcium ion import"
##                        "cellular response to arsenic-containing substance"
##                        "negative regulation of cytoplasmic translation"
##                        "I-kappaB phosphorylation"
##                        "embryonic camera-type eye development"
##                        "epididymis development"
##                        "response to organic cyclic compound"
##                        "cell-matrix adhesion involved in ameboidal cell migration"
##                        "protein localization to cilium"
##                        "male meiosis I"
##                        "maternal placenta development"
##                        "amyloid fibril formation"
##                        "B cell negative selection"
##                        "aspartyl-tRNA aminoacylation"
##                        "blood vessel development"
##                        "oxygen transport"
##                        "regulation of cardiac muscle cell apoptotic process"
```

```
##                     "leukocyte tethering or rolling"
##                     "glycine biosynthetic process, by transamination of glyoxylate"
##                     "actin filament severing"
##                     "negative regulation of protein dephosphorylation"
##                     "steroid biosynthetic process"
##                     "Notch receptor processing"
##                     "innate immune response in mucosa"
##                     "positive regulation of apoptotic DNA fragmentation"
##                     "negative regulation of IRE1-mediated unfolded protein response"
##                     "cellular response to jasmonic acid stimulus"
##                     "calcium ion transmembrane transport"
##                     "regulation of protein transport"
##                     "xenobiotic metabolic process"
##                     "regulation of RIG-I signaling pathway"
##                     "peptidoglycan catabolic process"
##                     "oxalic acid secretion"
##                     "interaction with symbiont"
##                     "negative regulation of ryanodine-sensitive calcium-release channel activity"
##                     "pyrimidine dimer repair"
##                     "cerebellum development"
##                     "Golgi organization"
##                     "positive regulation of peptidase activity"
##                     "negative regulation of cholesterol biosynthetic process"
##                     "histidyl-tRNA aminoacylation"
##                     "response to nutrient"
##                     "positive regulation of axon regeneration"
##                     "valine metabolic process"
##                     "negative regulation of neuron apoptotic process"
##                     "negative regulation of hematopoietic stem cell differentiation"
##                     "geranyl diphosphate biosynthetic process"
##                     "farnesyl diphosphate biosynthetic process"
##                     "neurotransmitter receptor localization to postsynaptic specialization membrane"
##                     "protein heterooligomerization"
##                     "negative regulation of transcription from RNA polymerase II promoter in response
##                     "clathrin-dependent extracellular exosome endocytosis"
##                     "tryptophan catabolic process"
##                     "glycogen metabolic process"
##                     "response to axon injury"
##                     "peptidyl-arginine methylation"
##                     "'de novo' NAD biosynthetic process from aspartate"
##                     "response to antibiotic"
##                     "oxaloacetate(2-) transmembrane transport"
##                     "xenobiotic glucuronidation"
##                     "methylglyoxal metabolic process"
##                     "regulation of protein tyrosine kinase activity"
##                     "flavonoid glucuronidation"
##                     "dicarboxylic acid transport"
##                     "IRE1-mediated unfolded protein response"
##                     "negative regulation of apolipoprotein binding"
##                     "response to high light intensity"
##                     "polyamine biosynthetic process"
##                     "cytosolic transport"
##                     "protein arginylation"
##                     "cellular response to nicotine"
```

```
##                     "cardiac neuron differentiation"
##                     "protein targeting to lysosome"
##                     "chaperone-mediated protein folding"
##                     "negative regulation of protein autophosphorylation"
##                     "protein K63-linked deubiquitination"
##                     "response to biotic stimulus"
##                     "drug metabolic process"
##                     "cellular response to cycloheximide"
##                     "regulation of removal of superoxide radicals"
##                     "intrinsic apoptotic signaling pathway in response to hydrogen peroxide"
##                     "negative regulation of oxidoreductase activity"
##                     "positive regulation of interferon-alpha production"
##                     "regulation of NADP metabolic process"
##                     "cerebellar granular layer development"
##                     "growth plate cartilage chondrocyte differentiation"
##                     "rRNA import into mitochondrion"
##                     "kynurenine metabolic process"
##                     "thiosulfate transport"
##                     "oxaloacetate transport"
##                     "malate transmembrane transport"
##                     "positive regulation of superoxide dismutase activity"
##                     "snoRNA guided rRNA pseudouridine synthesis"
##                     "regulation of cell cycle G1/S phase transition"
##                     "positive regulation of immunoglobulin secretion"
##                     "regulation of membrane potential"
##                     "development of secondary male sexual characteristics"
##                     "mast cell migration"
##                     "succinate transmembrane transport"
##                     "positive regulation of flagellated sperm motility"
##                     "lysobisphosphatidic acid metabolic process"
##                     "metanephric glomerular visceral epithelial cell development"
##                     "response to glucose"
##                     "actin filament network formation"
##                     "protein localization to endoplasmic reticulum exit site"
##                     "striatum development"
##                     "superoxide anion generation"
##                     "ceramide metabolic process"
##                     "negative regulation of mitochondrial membrane permeability involved in apoptotic
##                     "regulation of receptor internalization"
##                     "negative regulation of bone development"
##                     "negative regulation of calcium-dependent ATPase activity"
##                     "negative regulation of DNA catabolic process"
##                     "positive regulation of dUTP diphosphatase activity"
##                     "negative regulation of leucine-tRNA ligase activity"
##                     "L-glutamate transmembrane transport"
##                     "retrograde transport, endosome to Golgi"
##                     "regulation of cysteine-type endopeptidase activity"
##                     "response to interferon-beta"
##                     "regulation of phosphatidylinositol 3-kinase signaling"
##                     "mitochondrial fission"
##                     "killing by host of symbiont cells"
##                     "modulation by host of viral transcription"
##                     "positive regulation of norepinephrine uptake"
##                     "cellular response to cytochalasin B"
```

```
##                      "lysyl-tRNA aminoacylation"
##                      "cellular response to starvation"
##                      "basophil activation involved in immune response"
##                      "mesendoderm development"
##                      "cellular response to glucagon stimulus"
##                      "argininosuccinate metabolic process"
##                      "purine nucleotide biosynthetic process"
##                      "negative regulation of RNA polymerase II regulatory region sequence-specific DNA
##                      "cellular response to ammonium ion"
##                      "synaptic target recognition"
##                      "spermatid differentiation"
##                      "steroid metabolic process"
##                      "cellular response to leukemia inhibitory factor"
##                      "peptide amidation"
##                      "regulation of dendritic spine morphogenesis"
##                      "cellular response to oleic acid"
##                      "mitochondrial membrane fusion"
##                      "folic acid metabolic process"
##                      "negative regulation of glial cell proliferation"
##                      "negative regulation of RNA biosynthetic process"
##                      "GPI anchor biosynthetic process"
##                      "L-serine biosynthetic process"
##                      "positive regulation of lipid kinase activity"
##                      "regulation of activation-induced cell death of T cells"
##                      "regulation of CD8-positive, alpha-beta cytotoxic T cell extravasation"
##                      "protein-FAD linkage"
##                      "triglyceride biosynthetic process"
##                      "inner ear morphogenesis"
##                      "positive regulation of synaptic vesicle endocytosis"
##                      "peptidyl-lysine modification to peptidyl-hypusine"
##                      "response to 3,3',5-triiodo-L-thyronine"
##                      "cerebellar Purkinje cell differentiation"
##                      "post-embryonic animal organ development"
##                      "cell activation involved in immune response"
##                      "protein localization to endoplasmic reticulum tubular network"
##                      "response to cobalamin"
##                      "tRNA nucleoside ribose methylation"
##                      "negative regulation of erythrocyte differentiation"
##                      "cellular glucose homeostasis"
##                      "response to ischemia"
##                      "negative regulation of receptor internalization"
##                      "RNA-dependent DNA biosynthetic process"
##                      "cilium movement involved in cell motility"
##                      "scaRNA localization to Cajal body"
##                      "development of secondary female sexual characteristics"
##                      "cellular response to interleukin-4"
##                      "antigen processing and presentation of endogenous antigen"
##                      "oocyte maturation"
##                      "glutaminyl-tRNA aminoacylation"
##                      "renal water homeostasis"
##                      "mRNA cleavage involved in gene silencing by miRNA"
##                      "protein depalmitoylation"
##                      "diapedesis"
##                      "arginine catabolic process to ornithine"
```

```
##                     "positive regulation of sodium ion export across plasma membrane"
##                     "translational termination"
##                     "reactive oxygen species biosynthetic process"
##                     "allantoin metabolic process"
##                     "isoleucine metabolic process"
##                     "cellular ketone metabolic process"
##                     "trachea formation"
##                     "negative regulation of double-stranded telomeric DNA binding"
##                     "phenylalanyl-tRNA aminoacylation"
##                     "negative regulation of endoribonuclease activity"
##                     "placenta development"
##                     "glycerophospholipid catabolic process"
##                     "amino acid transport"
##                     "cerebellar granule cell differentiation"
##                     "cellular response to reactive oxygen species"
##                     "cerebellum structural organization"
##                     "protein targeting to ER"
##                     "nose morphogenesis"
##                     "myeloid cell development"
##                     "response to extracellular stimulus"
##                     "positive regulation of protein insertion into mitochondrial membrane involved in a
##                     "regulation of epithelial cell differentiation"
##                     "nitrobenzene metabolic process"
##                     "C-terminal protein lipidation"
##                     "mitochondrial proton-transporting ATP synthase complex assembly"
##                     "negative regulation of protein localization to nucleolus"
##                     "Schwann cell proliferation"
##                     "negative regulation of fatty acid biosynthetic process"
##                     "pseudouridine synthesis"
##                     "glycine betaine transport"
##                     "alanine transport"
##                     "nerve growth factor signaling pathway"
##                     "regulation of Rho protein signal transduction"
##                     "positive regulation of retrograde protein transport, ER to cytosol"
##                     "purine nucleobase metabolic process"
##                     "regulation of synapse maturation"
##                     "intermediate-density lipoprotein particle remodeling"
##                     "anterograde dendritic transport of mitochondrion"
##                     "cellular response to tunicamycin"
##                     "ATF6-mediated unfolded protein response"
##                     "cellular response to topologically incorrect protein"
##                     "polyubiquitinated misfolded protein transport"
##                     "Hsp90 deacetylation"
##                     "lung morphogenesis"
##                     "chaperone-mediated autophagy"
##                     "negative regulation of reactive oxygen species metabolic process"
##                     "L-ascorbic acid metabolic process"
##                     "lactate biosynthetic process"
##                     "regulation of autophagy of mitochondrion"
##                     "caveolin-mediated endocytosis"
##                     "ergosterol biosynthetic process"
##                     "endosome to lysosome transport via multivesicular body sorting pathway"
##                     "telomerase holoenzyme complex assembly"
##                     "cellular response to hydrogen sulfide"
```

```
##                       "cellular response to ATP"
##                       "nucleoside monophosphate phosphorylation"
##                       "mitochondrial transcription"
##                       "epithelial cell proliferation"
##                       "nitric oxide biosynthetic process"
##                       "cellular response to cadmium ion"
##                       "cellular response to organonitrogen compound"
##                       "positive regulation of intracellular cholesterol transport"
##                       "lipid hydroperoxide transport"
##                       "hydrogen peroxide metabolic process"
##                       "cellular response to trichostatin A"
##                       "protein deubiquitination"
##                       "regulation of GTP binding"
##                       "regulation of cytoplasmic translational fidelity"
##                       "positive regulation of double-strand break repair via homologous recombination"
##                       "regulation of protein oligomerization"
##                       "aggresome assembly"
##                       "protein export from nucleus"
##                       "mitochondrial membrane fission"
##                       "fatty-acyl-CoA biosynthetic process"
##                       "behavioral response to cocaine"
##                       "aldehyde catabolic process"
##                       "positive regulation of protein kinase A signaling"
##                       "positive regulation of phosphatase activity"
##                       "peptidyl-diphthamide biosynthetic process from peptidyl-histidine"
##                       "protein neddylation"
##                       "response to isolation stress"
##                       "glomerular mesangial cell development"
##                       "peroxisome fission"
##                       "dendritic spine development"
##                       "platelet morphogenesis"
##                       "sensory perception of sound"
##                       "establishment or maintenance of transmembrane electrochemical gradient"
##                       "cholesterol biosynthetic process"
##                       "cytosine metabolic process"
##                       "protein N-linked glycosylation via asparagine"
##                       "cellular response to amine stimulus"
##                       "receptor localization to synapse"
##                       "meiotic chromosome movement towards spindle pole"
##                       "meiotic cytokinesis"
##                       "positive regulation of blood vessel remodeling"
##                       "granulocyte colony-stimulating factor signaling pathway"
##                       "calcium export from the mitochondrion"
##                       "alpha-ketoglutarate transport"
##                       "response to electrical stimulus"
##                       "negative regulation of flagellated sperm motility"
##                       "D-glucuronate catabolic process"
##                       "negative regulation of glucocorticoid receptor signaling pathway"
##                       "negative regulation of intrinsic apoptotic signaling pathway in response to hydrog
##                       "epithelial cell apoptotic process"
##                       "response to phenylpropanoid"
##                       "regulation of protein autophosphorylation"
##                       "negative regulation of estrogen receptor binding"
##                       "neuron apoptotic process"
```

```
##                         "pyrimidine nucleoside metabolic process"
##                         "mitotic spindle disassembly"
##                         "protein autoprocessing"
##                         "activation-induced cell death of T cells"
##                         "negative regulation of meiotic nuclear division"
##                         "molybdopterin cofactor biosynthetic process"
##                         "positive regulation of Wnt-mediated midbrain dopaminergic neuron differentiation"
##                         "negative regulation of JUN kinase activity"
##                         "negative regulation of cardiac muscle cell apoptotic process"
##                         "tRNA import into mitochondrion"
##                         "mitochondrial outer membrane translocase complex assembly"
##                         "nucleologenesis"
##                         "heart formation"
##                         "negative regulation of transcription from RNA polymerase II promoter in response
##                         "chronic inflammatory response"
##                         "cGMP-mediated signaling"
##                         "positive regulation of histone deacetylase activity"
##                         "ossification"
##                         "response to muscle inactivity"
##                         "antibacterial humoral response"
##                         "purine ribonucleotide catabolic process"
##                         "bilirubin conjugation"
##                         "protein-containing complex disassembly"
##                         "negative regulation of ripoptosome assembly involved in necroptotic process"
##                         "cellular response to thapsigargin"
##                         "response to flavonoid"
##                         "positive regulation of trophoblast cell migration"
##                         "regulation of dopamine secretion"
##                         "response to oxygen radical"
##                         "aortic valve development"
##                         "pulmonary valve development"
##                         "regulation of kidney size"
##                         "negative regulation of thioredoxin peroxidase activity by peptidyl-threonine phosp
##                         "Wnt signalosome assembly"
##                         "determination of liver left/right asymmetry"
##                         "'de novo' pyrimidine nucleobase biosynthetic process"
##                         "Golgi vesicle docking"
##                         "formate metabolic process"
##                         "actin filament uncapping"
##                         "dynamin family protein polymerization involved in mitochondrial fission"
##                         "regulation of neuron apoptotic process"
##                         "flavin adenine dinucleotide catabolic process"
##                         "positive regulation of protein K63-linked deubiquitination"
##                         "positive regulation of Lys63-specific deubiquitinase activity"
##                         "behavioral response to pain"
##                         "negative regulation of mitochondrial fusion"
##                         "positive regulation of skeletal muscle contraction by regulation of release of se
##                         "negative stranded viral RNA replication"
##                         "arachidonic acid metabolic process"
##                         "regulation of branching morphogenesis of a nerve"
##                         "calcium import into the mitochondrion"
##                         "regulation of retrograde transport, endosome to Golgi"
##                         "positive regulation of NMDA glutamate receptor activity"
##                         "signal transduction by protein phosphorylation"
```

```
##                     "pinocytosis"
##                     "nucleotide metabolic process"
##                     "protein localization to nuclear pore"
##                     "mitochondrial ncRNA surveillance"
##                     "mitochondrial mRNA surveillance"
##                     "mitochondrial RNA surveillance"
##                     "calcineurin-NFAT signaling cascade"
##                     "regulation of neuroblast proliferation"
##                     "glucosylceramide catabolic process"
##                     "ureter urothelium development"
##                     "synaptonemal complex disassembly"
##                     "positive regulation of necroptotic process"
##                     "synaptic vesicle recycling via endosome"
##                     "neurofilament cytoskeleton organization"
##                     "positive regulation of protein localization to chromosome, telomeric region"
##                     "regulation of fatty acid oxidation"
##                     "cellular response to redox state"
##                     "positive regulation of ubiquitin-specific protease activity"
##                     "response to clozapine"
##                     "positive regulation of membrane potential"
##                     "thymocyte apoptotic process"
##                     "regulation of T cell mediated cytotoxicity"
##                     "maintenance of mitochondrion location"
##                     "cell adhesion molecule production"
##                     "post-embryonic camera-type eye morphogenesis"
##                     "protein depolymerization"
##                     "lipid catabolic process"
##                     "negative regulation of transforming growth factor beta activation"
##                     "citrulline metabolic process"
##                     "mitochondrial protein processing"
##                     "positive regulation of metallopeptidase activity"
##                     "cellular detoxification of nitrogen compound"
##                     "regulation of aerobic respiration"
##                     "protein-pyridoxal-5-phosphate linkage via peptidyl-N6-pyridoxal phosphate-L-lysine
##                     "regulation of potassium ion transport"
##                     "protein sulfhydration"
##                     "glyceraldehyde-3-phosphate biosynthetic process"
##                     "'de novo' L-methionine biosynthetic process"
##                     "positive regulation of aortic smooth muscle cell differentiation"
##                     "nail development"
##                     "cellular response to Thyroid stimulating hormone"
##                     "regulation of organ growth"
##                     "peripheral nervous system myelin maintenance"
##                     "protein-DNA complex disassembly"
##                     "negative regulation of gluconeogenesis"
##                     "response to temperature stimulus"
##                     "negative regulation of reciprocal meiotic recombination"
##                     "long-chain fatty acid import"
##                     "chromosome organization"
##                     "myeloid cell homeostasis"
##                     "negative regulation of sequestering of calcium ion"
##                     "negative regulation of chemokine (C-C motif) ligand 4 production"
##                     "negative regulation of interleukin-17 secretion"
##                     "negative regulation of activated CD8-positive, alpha-beta T cell apoptotic proces
```

```
##                           "negative regulation of parkin-mediated stimulation of mitophagy in response to mi
##                           "regulation of endosome size"
##                           "regulation of peroxisome organization"
##                           "positive regulation of potassium ion import"
##                           "sympathetic nervous system development"
##                           "negative regulation of complement-dependent cytotoxicity"
##                           "post-translational protein modification"
##                           "virion attachment to host cell"
##                           "cellular response to arsenite ion"
##                           "synaptic vesicle maturation"
##                           "protein metabolic process"
##                           "establishment of protein localization to peroxisome"
##                           "negative regulation of lipid binding"
##                           "negative regulation of cell growth"
##                           "negative regulation of cysteine-type endopeptidase activity involved in apoptotic
##                           "positive regulation of synaptic vesicle exocytosis"
##                           "negative regulation of hydrogen peroxide metabolic process"
##                           "negative regulation of multicellular organism growth"
##                           "positive regulation of endopeptidase activity"
##                           "isoleucyl-tRNA aminoacylation"
##                           "nitrate assimilation"
##                           "positive regulation of protein import into nucleus, translocation"
##                           "meiotic gene conversion"
##                           "negative regulation of protein homotetramerization"
##                           "positive regulation of endocytic recycling"
##                           "release of sequestered calcium ion into cytosol by sarcoplasmic reticulum"
##                           "purine ribonucleotide interconversion"
##                           "lamellipodium assembly involved in ameboidal cell migration"
##                           "extension of a leading process involved in cell motility in cerebral cortex radial
##                           "regulation of toll-like receptor 9 signaling pathway"
##                           "amyloid precursor protein metabolic process"
##                           "actomyosin contractile ring contraction"
##                           "positive regulation of insulin secretion"
##                           "vesicle uncoating"
##                           "ESCRT complex disassembly"
##                           "folic acid-containing compound biosynthetic process"
##                           "positive regulation of apoptotic process involved in morphogenesis"
##                           "cerebellar cortex development"
##                           "negative regulation of extracellular matrix constituent secretion"
##                           "Peyer's patch development"
##                           "B cell mediated immunity"
##                           "positive regulation of ligase activity"
##                           "cellular response to menadione"
##                           "nucleus localization"
##                           "protein localization to synapse"
##                           "positive regulation of natural killer cell proliferation"
##                           "endoplasmic reticulum-Golgi intermediate compartment organization"
##                           "positive regulation of mitochondrial RNA catabolic process"
##                           "mitochondrial RNA 3'-end processing"
##                           "positive regulation of muscle contraction"
##                           "interleukin-8 secretion"
##                           "response to cocaine"
##                           "positive regulation of oxidative phosphorylation"
##                           "peptidyl-cysteine methylation"
```

```
##                     "heterocycle metabolic process"
##                     "negative regulation of stress-activated MAPK cascade"
##                     "DNA metabolic process"
##                     "lactate metabolic process"
##                     "intra-Golgi vesicle-mediated transport"
##                     "negative regulation of short-term synaptic potentiation"
##                     "farnesol catabolic process"
##                     "Mullerian duct regression"
##                     "insulin catabolic process"
##                     "apoptotic process involved in morphogenesis"
##                     "peptidyl-arginine methylation, to asymmetrical-dimethyl arginine"
##                     "negative regulation of monocyte differentiation"
##                     "regulation of gliogenesis"
##                     "coumarin catabolic process"
##                     "phosphocreatine biosynthetic process"
##                     "negative regulation of cell division"
##                     "L-phenylalanine catabolic process"
##                     "endocardial cushion formation"
##                     "mitochondrion distribution"
##                     "intrinsic apoptotic signaling pathway"
##                     "detoxification of copper ion"
##                     "sphingolipid biosynthetic process"
##                     "cAMP-mediated signaling"
##                     "hypoxia-inducible factor-1alpha signaling pathway"
##                     "positive regulation of lipid biosynthetic process"
##                     "positive regulation of ribosomal small subunit export from nucleus"
##                     "negative regulation of RIG-I signaling pathway"
##                     "positive regulation of cyclin-dependent protein kinase activity"
##                     "positive regulation of dendritic spine morphogenesis"
##                     "neurotransmitter uptake"
##                     "'de novo' posttranslational protein folding"
##                     "proteasome regulatory particle assembly"
##                     "citrate transport"
##                     "heme catabolic process"
##                     "positive regulation of transcription involved in G2/M transition of mitotic cell
##                     "prostaglandin metabolic process"
##                     "mRNA metabolic process"
##                     "drug catabolic process"
##                     "regulation of ossification"
##                     "ubiquitin-dependent ERAD pathway"
##                     "transcriptional activation by promoter-enhancer looping"
##                     "male meiotic nuclear division"
##                     "contact inhibition"
##                     "peripheral nervous system axon regeneration"
##                     "positive regulation of release of cytochrome c from mitochondria"
##                     "tubulin deacetylation"
##                     "Golgi to plasma membrane transport"
##                     "tyrosine catabolic process"
##                     "skeletal muscle acetylcholine-gated channel clustering"
##                     "box C/D snoRNP assembly"
##                     "hydrogen sulfide metabolic process"
##                     "response to hydroperoxide"
##                     "hormone catabolic process"
##                     "negative regulation of protein complex disassembly"
```

```
##                     "auditory receptor cell stereocilium organization"
##                     "mature ribosome assembly"
##                     "protein stabilization"
##                     "nucleotide-excision repair involved in interstrand cross-link repair"
##                     "activation of MAPKKK activity"
##                     "intermediate mesoderm development"
##                     "mesangial cell development"
##                     "specification of anterior mesonephric tubule identity"
##                     "specification of posterior mesonephric tubule identity"
##                     "negative regulation of nephron tubule epithelial cell differentiation"
##                     "renal vesicle progenitor cell differentiation"
##                     "metanephric nephron tubule development"
##                     "metanephric glomerulus vasculature development"
##                     "metanephric interstitial fibroblast development"
##                     "pattern specification involved in metanephros development"
##                     "metanephric cap mesenchymal cell proliferation involved in metanephros development"
##                     "cellular response to drug"
##                     "acetyl-CoA catabolic process"
##                     "metanephric proximal convoluted tubule development"
##                     "ketone body metabolic process"
##                     "propionyl-CoA biosynthetic process"
##                     "positive regulation of natural killer cell differentiation"
##                     "outer ear morphogenesis"
##                     "meiosis I"
##                     "response to ketamine"
##                     "cellular response to monosodium glutamate"
##                     "response to Aroclor 1254"
##                     "regulation of hippo signaling"
##                     "response to hormone"
##                     "rRNA 2'-O-methylation"
##                     "folic acid catabolic process"
##                     "sarcoplasmic reticulum calcium ion transport"
##                     "telomere localization"
##                     "microtubule cytoskeleton organization involved in homologous chromosome segregatio
##                     "chromosome localization to nuclear envelope involved in homologous chromosome seg
##                     "positive regulation of acetylcholine metabolic process"
##                     "glucocorticoid catabolic process"
##                     "regulation of proteolysis"
##                     "ether lipid biosynthetic process"
##                     "posttranscriptional gene silencing by RNA"
##                     "protein localization to perinuclear region of cytoplasm"
##                     "regulation of histone H2B conserved C-terminal lysine ubiquitination"
##                     "spindle localization"
##                     "bone maturation"
##                     "regulation of microtubule-based movement"
##                     "regulation of lateral mesodermal cell fate specification"
##                     "intra-S DNA damage checkpoint"
##                     "taurine metabolic process"
##                     "tryptophanyl-tRNA aminoacylation"
##                     "protoporphyrinogen IX biosynthetic process from glutamate"
##                     "positive regulation of transcription initiation from RNA polymerase II promoter"
##                     "snRNA import into nucleus"
##                     "maintenance of postsynaptic specialization structure"
##                     "positive regulation of supramolecular fiber organization"
```

```
##                      "regulation of adenylate cyclase activity"
##                      "negative regulation of macrophage inflammatory protein 1 alpha production"
##                      "response to interleukin-4"
##                      "regulation of DNA double-strand break processing"
##                      "brainstem development"
##                      "olfactory bulb development"
##                      "catecholamine biosynthetic process"
##                      "desensitization of G protein-coupled receptor signaling pathway by arrestin"
##                      "positive regulation of xenophagy"
##                      "positive regulation of mitochondrial fission"
##                      "regulation of cellular response to heat"
##                      "regulation of phosphoprotein phosphatase activity"
##                      "negative regulation of GTP binding"
##                      "amine metabolic process"
##                      "regulation of early endosome to late endosome transport"
##                      "transition between fast and slow fiber"
##                      "ketone catabolic process"
##                      "cellular ketone body metabolic process"
##                      "positive regulation of plasminogen activation"
##                      "learning"
##                      "cellular amino acid metabolic process"
##                      "ribonucleoprotein complex assembly"
##                      "negative regulation of rRNA processing"
##                      "regulation of histone H3-K9 acetylation"
##                      "axonemal central apparatus assembly"
##                      "asparaginyl-tRNA aminoacylation"
##                      "arsenite transport"
##                      "negative regulation of guanylate cyclase activity"
##                      "endoplasmic reticulum stress-induced pre-emptive quality control"
##                      "L-alanine catabolic process"
##                      "cellular response to antibiotic"
##                      "positive regulation of sodium ion transmembrane transporter activity"
##                      "cellular response to calcium ion"
##                      "pattern recognition receptor signaling pathway"
##                      "detection of chemical stimulus"
##                      "positive regulation of protein linear polyubiquitination"
##                      "positive regulation of vascular associated smooth muscle cell migration"
##                      "positive regulation of erythrocyte differentiation"
##                      "retina homeostasis"
##                      "positive regulation of long-term synaptic depression"
##                      "lactate catabolic process"
##                      "endothelium development"
##                      "regulation of sodium ion transmembrane transporter activity"
##                      "RNA destabilization"
##                      "biological_process"
##                      "NAD biosynthetic process"
##                      "monoterpenoid metabolic process"
##                      "regulation of gastrulation"
##                      "dihydrofolate metabolic process"
##                      "positive regulation of non-canonical Wnt signaling pathway"
##                      "flagellated sperm motility"
##                      "regulation of inositol 1,4,5-trisphosphate-sensitive calcium-release channel activ
##                      "response to oleic acid"
##                      "establishment of protein localization"
```

```
##                     "establishment of endoplasmic reticulum localization to postsynapse"
##                     "selective autophagy"
##                     "negative regulation of protein K48-linked deubiquitination"
##                     "negative regulation of ubiquitin-specific protease activity"
##                     "protein processing"
##                     "response to ATP"
##                     "regulation of bone remodeling"
##                     "positive regulation of protein K48-linked ubiquitination"
##                     "glycoprotein catabolic process"
##                     "negative regulation of cardiac muscle hypertrophy"
##                     "positive regulation of protein targeting to mitochondrion"
##                     "mevalonate transport"
##                     "behavioral response to nutrient"
##                     "regulation of brood size"
##                     "response to G1 DNA damage checkpoint signaling"
##                     "cellular response to virus"
##                     "mitochondrial asparaginyl-tRNA aminoacylation"
##                     "negative regulation of interleukin-12 biosynthetic process"
##                     "axon regeneration"
##                     "cellular response to nutrient"
##                     "microvillus assembly"
##                     "negative regulation of DNA biosynthetic process"
##                     "tRNA-guanine transglycosylation"
##                     "GPI anchor metabolic process"
##                     "regulation of presynapse assembly"
##                     "calcium-mediated signaling using intracellular calcium source"
##                     "coenzyme biosynthetic process"
##                     "pancreatic juice secretion"
##                     "protein dephosphorylation"
##                     "female meiotic nuclear division"
##                     "type B pancreatic cell development"
##                     "chloride transport"
##                     "cell junction assembly"
##                     "regulation of mitochondrial depolarization"
##                     "lens morphogenesis in camera-type eye"
##                     "regulation of presynaptic membrane potential"
##                     "B cell activation"
##                     "insulin metabolic process"
##                     "negative regulation of calcium-transporting ATPase activity"
##                     "regulation of mitochondrial translation"
##                     "arginine metabolic process"
##                     "negative regulation of autophagosome assembly"
##                     "positive regulation of DNA-templated transcription, initiation"
##                     "cellular response to actinomycin D"
##                     "negative regulation of oxidative phosphorylation"
##                     "establishment of mitochondrion localization by microtubule attachment"
##                     "hypoxanthine biosynthetic process"
##                     "negative regulation of chemokine (C-C motif) ligand 5 production"
##                     "mitochondrial mRNA catabolic process"
##                     "pre-miRNA export from nucleus"
##                     "relaxation of vascular smooth muscle"
##                     "alkaloid catabolic process"
##                     "cellular response to dsRNA"
##                     "chaperone mediated protein folding independent of cofactor"
```

```
##                     "regulation of cytoskeleton organization"
##                     "pronephric nephron development"
##                     "negative regulation of hyaluronan biosynthetic process"
##                     "activation of JNKK activity"
##                     "regulation of axon regeneration"
##                     "response to misfolded protein"
##                     "nucleotide-excision repair, DNA incision, 3'-to lesion"
##                     "mitochondrion to lysosome transport"
##                     "osmosensory signaling pathway"
##                     "sex differentiation"
##                     "amyloid-beta metabolic process"
##                     "negative regulation of trophoblast cell migration"
##                     "cellular protein catabolic process"
##                     "negative regulation of protein metabolic process"
##                     "calcineurin-mediated signaling"
##                     "response to lipid hydroperoxide"
##                     "plasma membrane lactate transport"
##                     "secretory granule localization"
##                     "regulation of innate immune response"
##                     "regulation of endocytic recycling"
##                     "response to selenium ion"
##                     "regulation of grooming behavior"
##                     "'de novo' actin filament nucleation"
##                     "peptidyl-serine autophosphorylation"
##                     "hemostasis"
##                     "regulation of L-arginine import"
##                     "positive regulation of neutrophil mediated killing of fungus"
##                     "regulation of atrial cardiac muscle cell membrane depolarization"
##                     "hypothalamus development"
##                     "response to hypobaric hypoxia"
##                     "protein targeting to peroxisome"
##                     "neuron recognition"
##                     "cellular response to hypoxia"
##                     "vocalization behavior"
##                     "alanyl-tRNA aminoacylation"
##                     "negative regulation of axonogenesis"
##                     "negative regulation of immunoglobulin secretion"
##                     "response to fungus"
##                     "protein glycosylation"
##                     "positive regulation of transcription by RNA polymerase I"
##                     "regulation of vascular endothelial growth factor signaling pathway"
##                     "regulation of ryanodine-sensitive calcium-release channel activity"
##                     "microtubule polymerization or depolymerization"
##                     "oxalate transport"
##                     "response to methylamine"
##                     "regulation of natural killer cell apoptotic process"
##                     "response to lipoic acid"
##                     "regulation of activin receptor signaling pathway"
##                     "endothelial cell development"
##                     "aggrephagy"
##                     "blood vessel remodeling"
##                     "positive regulation of NK T cell activation"
##                     "alkaloid metabolic process"
##                     "cardiac conduction"
```

```
##                       "N-terminal peptidyl-methionine acetylation"
##                       "phosphatidylserine metabolic process"
##                       "regulation of fatty acid biosynthetic process"
##                       "mRNA cleavage involved in gene silencing by siRNA"
##                       "regulation of necroptotic process"
##                       "hepatocyte differentiation"
##                       "cellular response to estrogen stimulus"
##                       "mitochondrial tRNA 3'-trailer cleavage, endonucleolytic"
##                       "negative regulation of metallopeptidase activity"
##                       "apical protein localization"
##                       "regulation of establishment of protein localization"
##                       "protein deglycosylation"
##                       "regulation of endocytosis"
##                       "regulation of cilium assembly"
##                       "glutathione biosynthetic process"
##                       "membrane to membrane docking"
##                       "myeloid dendritic cell cytokine production"
##                       "protein retention in ER lumen"
##                       "proton-transporting ATP synthase complex assembly"
##                       "autophagosome organization"
##                       "negative regulation of interleukin-13 secretion"
##                       "negative regulation of Schwann cell proliferation"
##                       "coenzyme A biosynthetic process"
##                       "positive regulation of proteolysis involved in cellular protein catabolic process"
##                       "retrograde protein transport, ER to cytosol"
##                       "thiamine transmembrane transport"
##                       "cellular copper ion homeostasis"
##                       "negative regulation of mitochondrial fission"
##                       "sulfate transport"
##                       "regulation of multivesicular body size"
##                       "minus-end-directed organelle transport along microtubule"
##                       "nodal signaling pathway involved in determination of lateral mesoderm left/right a
##                       "tubulin complex assembly"
##                       "glucosamine catabolic process"
##                       "regulation of glucose metabolic process"
##                       "positive regulation of Ras protein signal transduction"
##                       "positive regulation of T cell activation"
##                       "lipid localization"
##                       "positive regulation of mitochondrial DNA replication"
##                       "stress-induced mitochondrial fusion"
##                       "clathrin coat assembly"
##                       "negative regulation of nitric oxide biosynthetic process"
##                       "positive regulation of mitotic centrosome separation"
##                       "maintenance of Golgi location"
##                       "negative regulation of protein localization to centrosome"
##                       "adrenergic receptor signaling pathway"
##                       "protein import into mitochondrial outer membrane"
##                       "positive regulation of RNA biosynthetic process"
##                       "negative regulation of cellular component movement"
##                       "limbic system development"
##                       "negative regulation of steroid metabolic process"
##                       "regulation of synaptic vesicle cycle"
##                       "negative regulation of low-density lipoprotein particle receptor binding"
##                       "negative regulation of receptor-mediated endocytosis involved in cholesterol trans
```

```
##                     "negative regulation of catalytic activity"
##                     "metal ion homeostasis"
##                     "negative regulation of androgen receptor activity"
##                     "histone arginine methylation"
##                     "peroxisome transport along microtubule"
##                     "protein import into peroxisome matrix, substrate release"
##                     "synapse organization"
##                     "positive regulation of transcription involved in G1/S transition of mitotic cell
##                     "actin filament reorganization involved in cell cycle"
##                     "GMP metabolic process"
##                     "regulation of granulocyte chemotaxis"
##                     "peptidyl-proline hydroxylation to 4-hydroxy-L-proline"
##                     "regulation of embryonic cell shape"
##                     "phosphatidylcholine biosynthetic process"
##                     "N-acetylglucosamine catabolic process"
##                     "regulation of oxidative stress-induced intrinsic apoptotic signaling pathway"
##                     "nuclear envelope reassembly"
##                     "response to herbicide"
##                     "locomotion involved in locomotory behavior"
##                     "copper ion homeostasis"
##                     "UV protection"
##                     "detection of bacterium"
##                     "regulation of activated T cell proliferation"
##                     "Golgi localization"
##                     "negative regulation of extrinsic apoptotic signaling pathway in absence of ligand
##                     "steroid catabolic process"
##                     "positive regulation of glycoprotein metabolic process"
##                     "parkin-mediated stimulation of mitophagy in response to mitochondrial depolarizat
##                     "negative regulation of creatine transmembrane transporter activity"
##                     "protein K29-linked deubiquitination"
##                     "positive regulation of vascular smooth muscle cell proliferation"
##                     "regulation of cellular protein metabolic process"
##                     "protein import into peroxisome membrane"
##                     "negative regulation of protein ubiquitination"
##                     "RNA import into nucleus"
##                     "regulation of mitotic sister chromatid separation"
##                     "positive regulation of heterochromatin assembly"
##                     "nuclear matrix organization"
##                     "cellular response to leptin stimulus"
##                     "organelle organization"
##                     "regulation of protein targeting to mitochondrion"
##                     "septin ring assembly"
##                     "spermine biosynthetic process"
##                     "CD4-positive, alpha-beta T cell activation"
##                     "serine family amino acid metabolic process"
##                     "mononuclear cell migration"
##                     "DNA catabolic process, endonucleolytic"
##                     "positive regulation of protein K63-linked ubiquitination"
##                     "protein transmembrane transport"
##                     "NLS-bearing protein import into nucleus"
##                     "glucuronate catabolic process to xylulose 5-phosphate"
##                     "positive regulation of mitochondrial membrane potential"
##                     "negative regulation of transcription by competitive promoter binding"
##                     "regulation of ARF protein signal transduction"
```

```
##                     "Okazaki fragment processing involved in mitotic DNA replication"
##                     "modulation of chemical synaptic transmission"
##                     "mitochondrial outer membrane permeabilization"
##                     "negative regulation of cardiocyte differentiation"
##                     "exosomal secretion"
##                     "cell communication by chemical coupling"
##                     "production of siRNA involved in RNA interference"
##                     "mitochondrial ribosome assembly"
##                     "sarcomere organization"
##                     "negative regulation of dendrite morphogenesis"
##                     "stress-activated protein kinase signaling cascade"
##                     "protein insertion into mitochondrial membrane involved in apoptotic signaling path
##                     "regulation of fat cell differentiation"
##                     "regulation of organelle transport along microtubule"
##                     "plasminogen activation"
##                     "lipid homeostasis"
##                     "response to growth hormone"
##                     "hemoglobin metabolic process"
##                     "regulation of postsynaptic density assembly"
##                     "response to hydroxyisoflavone"
##                     "depurination"
##                     "doxorubicin transport"
##                     "telomerase RNA stabilization"
##                     "diadenosine polyphosphate catabolic process"
##                     "diphosphoinositol polyphosphate catabolic process"
##                     "positive regulation of cytokine secretion involved in immune response"
##                     "somatic muscle development"
##                     "phosphatidylinositol biosynthetic process"
##                     "regulation of phospholipase A2 activity"
##                     "negative regulation of calcidiol 1-monooxygenase activity"
##                     "7-methylguanosine RNA capping"
##                     "ribonucleoprotein complex biogenesis"
##                     "Rap protein signal transduction"
##                     "myeloid cell apoptotic process"
##                     "7-methylguanosine cap hypermethylation"
##                     "cellular response to anisomycin"
##                     "melanin biosynthetic process"
##                     "T cell homeostatic proliferation"
##                     "endosome to lysosome transport"
##                     "release of matrix enzymes from mitochondria"
##                     "positive regulation of developmental pigmentation"
##                     "B cell receptor apoptotic signaling pathway"
##                     "positive regulation of dopamine biosynthetic process"
##                     "cellular response to granulocyte macrophage colony-stimulating factor stimulus"
##                     "protein K33-linked deubiquitination"
##                     "positive regulation of autophagy of mitochondrion in response to mitochondrial dep
##                     "regulation of neuron maturation"
##                     "protein quality control for misfolded or incompletely synthesized proteins"
##                     "regulation of lymphocyte migration"
##                     "membrane fusion"
##                     "endoplasmic reticulum unfolded protein response"
##                     "response to cadmium ion"
##                     "posttranslational protein targeting to endoplasmic reticulum membrane"
##                     "regulation of protein complex assembly"
```

```
##                      "negative regulation of cholesterol transport"
##                      "ARF protein signal transduction"
##                      "diphosphoinositol polyphosphate metabolic process"
##                      "regulation of neurotransmitter receptor transport, endosome to postsynaptic membra
##                      "diadenosine pentaphosphate catabolic process"
##                      "diadenosine hexaphosphate catabolic process"
##                      "adenosine 5'-(hexahydrogen pentaphosphate) catabolic process"
##                      "cysteine metabolic process"
##                      "protein homooligomerization"
##                      "membrane depolarization during action potential"
##                      "protein homotrimerization"
##                      "positive regulation of cardiac muscle hypertrophy in response to stress"
##                      "protein insertion into membrane"
##                      "posterior mesonephric tubule development"
##                      "establishment of protein localization to organelle"
##                      "positive regulation of mitophagy in response to mitochondrial depolarization"
##                      "mitochondrial pyruvate transmembrane transport"
##                      "gap junction assembly"
##                      "translocation of peptides or proteins into host cell cytoplasm"
##                      "regulation of macrophage apoptotic process"
##                      "membrane raft organization"
##                      "modulation by virus of host process"
##                      "negative regulation of late endosome to lysosome transport"
##                      "myeloid dendritic cell differentiation"
##                      "sulfur amino acid catabolic process"
##                      "valine catabolic process"
##                      "regulation of sodium ion transport"
##                      "negative regulation of myeloid leukocyte differentiation"
##                      "stress granule disassembly"
##                      "meiotic spindle elongation"
##                      "cellular response to fibroblast growth factor stimulus"
##                      "negative regulation of lipid kinase activity"
##                      "cell communication by electrical coupling"
##                      "muscle atrophy"
##                      "benzoate metabolic process"
##                      "urate metabolic process"
##                      "negative regulation of quinolinate biosynthetic process"
##                      "picolinic acid biosynthetic process"
##                      "regulation of 'de novo' NAD biosynthetic process from tryptophan"
##                      "mitotic cell cycle arrest"
##                      "flavone metabolic process"
##                      "butyrate metabolic process"
##                      "carnitine transmembrane transport"
##                      "glycine import into mitochondrion"
##                      "actin rod assembly"
##                      "positive regulation of response to DNA damage stimulus"
##                      "coenzyme A metabolic process"
##                      "UDP-glucuronic acid transmembrane transport"
##                      "1-aminocyclopropane-1-carboxylate biosynthetic process"
##                      "cargo loading into COPII-coated vesicle"
##                      "animal organ development"
##                      "negative regulation of homotypic cell-cell adhesion"
##                      "cerebellar Purkinje cell layer maturation"
##                      "positive regulation of DNA-dependent DNA replication initiation"
```

```
##                     "signal transduction involved in intra-S DNA damage checkpoint"
##                     "cellular response to bisphenol A"
##                     "pentacyclic triterpenoid metabolic process"
##                     "heme O biosynthetic process"
##                     "negative regulation of mitophagy in response to mitochondrial depolarization"
##                     "GDP metabolic process"
##                     "alcohol catabolic process"
##                     "negative regulation of cellular organofluorine metabolic process"
##                     "thiamine-containing compound metabolic process"
##                     "cellular response to decreased oxygen levels"
##                     "arginyl-tRNA aminoacylation"
##                     "asymmetric neuroblast division"
##                     "creatine biosynthetic process"
##                     "protein adenylylation"
##                     "protein deadenylylation"
##                     "snRNA (adenine-N6)-methylation"
##                     "neuronal ion channel clustering"
##                     "negative regulation of DNA helicase activity"
##                     "embryonic process involved in female pregnancy"
##                     "long-term synaptic potentiation"
##                     "negative regulation of sodium:potassium-exchanging ATPase activity"
##                     "negative regulation of glucose catabolic process to lactate via pyruvate"
##                     "regulation of cortisol biosynthetic process"
##                     "magnesium ion transmembrane transport"
##                     "nuclear membrane organization"
##                     "negative regulation of protein localization to plasma membrane"
##                     "B cell homeostatic proliferation"
##                     "butyrate catabolic process"
##                     "regulation of platelet-derived growth factor production"
##                     "pyrimidine nucleotide-sugar transmembrane transport"
##                     "response to hyperoxia"
##                     "carbon tetrachloride metabolic process"
##                     "benzene metabolic process"
##                     "halogenated hydrocarbon metabolic process"
##                     "nucleotide-excision repair, DNA duplex unwinding"
##                     "potassium ion export across plasma membrane"
##                     "cellular carbohydrate metabolic process"
##                     "establishment of monopolar cell polarity"
##                     "drug export"
##                     "regulation of systemic arterial blood pressure by atrial natriuretic peptide"
##                     "carnitine catabolic process"
##                     "cysteine transport"
##                     "positive regulation of tau-protein kinase activity"
##                     "cysteine transmembrane transport"
##                     "toxin biosynthetic process"
##                     "oxidative deethylation"
##                     "regulation of mammary gland epithelial cell proliferation"
##                     "positive regulation of viral life cycle"
##                     "glutamine transport"
##                     "arginine catabolic process"
##                     "ERAD pathway"
##                     "regulation of mesenchymal to epithelial transition involved in metanephros morphog
##                     "thymine metabolic process"
##                     "regulation of tube size"
```

```
##                     "gene conversion"
##                     "regulation of DNA strand elongation"
##                     "kidney rudiment formation"
##                     "establishment of planar polarity involved in nephron morphogenesis"
##                     "non-canonical Wnt signaling pathway involved in midbrain dopaminergic neuron diff
##                     "modulation by host of RNA binding by virus"
##                     "modulation by host of viral RNA-binding transcription factor activity"
##                     "protein repair"
##                     "cerebral cortex cell migration"
##                     "interaction with other organism via secreted substance involved in symbiotic inter
##                     "positive regulation of substrate-dependent cell migration, cell attachment to subs
##                     "receptor clustering"
##                     "thiamine transport"
##                     "establishment of protein localization to membrane"
##                     "positive regulation of apoptotic process"
##                     "heme oxidation"
##                     "cellular homeostasis"
##                     "relaxation of cardiac muscle"
##                     "negative regulation of retrograde protein transport, ER to cytosol"
##                     "transcription elongation from RNA polymerase I promoter"
##                     "negative regulation of timing of anagen"
##                     "epiboly involved in gastrulation with mouth forming second"
##                     "bundle of His cell to Purkinje myocyte communication"
##                     "negative regulation of high voltage-gated calcium channel activity"
##                     "positive regulation of transforming growth factor-beta secretion"
##                     "intracellular cholesterol transport"
##                     "programmed cell death"
##                     "protein targeting"
##                     "antigen processing and presentation of endogenous peptide antigen via MHC class II
##                     "actin polymerization or depolymerization"
##                     "negative regulation of collagen catabolic process"
##                     "regulation of programmed cell death"
##                     "dihydrobiopterin metabolic process"
##                     "negative regulation of elastin catabolic process"
##                     "regulation of apoptotic DNA fragmentation"
##                     "urate biosynthetic process"
##                     "fusion of virus membrane with host plasma membrane"
##                     "negative regulation of phosphoprotein phosphatase activity"
##                     "negative regulation of transforming growth factor-beta secretion"
##                     "positive regulation of immature T cell proliferation"
##                     "positive regulation of interleukin-6 production"
##                     "metanephric glomerulus development"
##                     "positive regulation of motile cilium assembly"
##                     "activation of cysteine-type endopeptidase activity involved in apoptotic process"
##                     "response to exogenous dsRNA"
##                     "membrane depolarization"
##                     "response to dsRNA"
##                     "mesenchymal stem cell maintenance involved in nephron morphogenesis"
##                     "positive regulation of transcription from RNA polymerase II promoter in response 
##                     "N-glycan processing"
##                     "transcription initiation from RNA polymerase III promoter"
##                     "regulation of exocytosis"
##                     "entry into host cell"
##                     "regulation of glucocorticoid mediated signaling pathway"
```

```
##                     "regulation of gluconeogenesis"
##                     "activation of phospholipase A2 activity"
##                     "positive regulation of interleukin-4-mediated signaling pathway"
##                     "protein K48-linked deubiquitination"
##                     "dorsal/ventral neural tube patterning"
##                     "SCF complex assembly"
##                     "histone H2A acetylation"
##                     "inner mitochondrial membrane organization"
##                     "positive regulation of dendrite morphogenesis"
##                     "post-Golgi vesicle-mediated transport"
##                     "nucleotide biosynthetic process"
##                     "quinone metabolic process"
##                     "regulation of blood coagulation, intrinsic pathway"
##                     "negative regulation of activin receptor signaling pathway"
##                     "regulation of protein homodimerization activity"
##                     "DNA recombinase assembly"
##                     "establishment of Golgi localization"
##                     "response to glycoside"
##                     "lysosome localization"
##                     "detection of temperature stimulus"
##                     "neuron projection arborization"
##                     "glycyl-tRNA aminoacylation"
##                     "mitochondrial glycyl-tRNA aminoacylation"
##                     "hair follicle maturation"
##                     "UDP-D-xylose biosynthetic process"
##                     "mesonephric duct formation"
##                     "alpha-linolenic acid metabolic process"
##                     "cellular response to amino acid starvation"
##                     "myelination in peripheral nervous system"
##                     "hyperosmotic salinity response"
##                     "regulation of long-term neuronal synaptic plasticity"
##                     "regulation of cilium beat frequency"
##                     "neural crest cell development"
##                     "histone H2A-S1 phosphorylation"
##                     "regulation of dopamine receptor signaling pathway"
##                     "regulation of cell morphogenesis"
##                     "telomeric DNA-containing double minutes formation"
##                     "negative regulation of protection from non-homologous end joining at telomere"
##                     "nuclear-transcribed mRNA catabolic process, non-stop decay"
##                     "nonfunctional rRNA decay"
##                     "RNA surveillance"
##                     "B cell apoptotic process"
##                     "T cell activation involved in immune response"
##                     "sodium ion export across plasma membrane"
##                     "metanephric smooth muscle tissue development"
##                     "positive regulation of T cell extravasation"
##                     "positive regulation of protein homodimerization activity"
##                     "regulation of the force of heart contraction"
##                     "homogentisate catabolic process"
##                     "positive regulation of cytochrome-c oxidase activity"
##                     "membrane repolarization"
##                     "response to growth factor"
##                     "glycosylation"
##                     "thymine catabolic process"
```

```
##                     "poly(A)+ mRNA export from nucleus"
##                     "phosphatidylethanolamine catabolic process"
##                     "melanocyte apoptotic process"
##                     "negative regulation of extracellular matrix organization"
##                     "dibenzo-p-dioxin metabolic process"
##                     "midbrain development"
##                     "execution phase of apoptosis"
##                     "response to cytokine"
##                     "cytoplasmic sequestering of protein"
##                     "negative regulation of nuclear-transcribed mRNA catabolic process, nonsense-media
##                     "tRNA aminoacylation"
##                     "sensory perception of mechanical stimulus"
##                     "protein lipidation involved in autophagosome assembly"
##                     "heart trabecula formation"
##                     "positive regulation of microtubule depolymerization"
##                     "positive regulation of lipid storage"
##                     "regulation of cellular senescence"
##                     "oxalate metabolic process"
##                     "leukocyte mediated cytotoxicity"
##                     "negative regulation of calcium-mediated signaling"
##                     "rhythmic behavior"
##                     "rhombomere 3 formation"
##                     "rhombomere 5 formation"
##                     "MyD88-dependent toll-like receptor signaling pathway"
##                     "regulation of steroid metabolic process"
##                     "regulation of chloride transport"
##                     "regulation of heart rate by hormone"
##                     "heme transport"
##                     "regulation of meiotic cell cycle process involved in oocyte maturation"
##                     "regulation of nitrogen utilization"
##                     "cellular response to dsDNA"
##                     "pre-miRNA processing"
##                     "ganglioside metabolic process"
##                     "proepicardium cell migration involved in pericardium morphogenesis"
##                     "negative regulation of interleukin-10 biosynthetic process"
##                     "formaldehyde catabolic process"
##                     "regulation of ventricular cardiac muscle cell membrane depolarization"
##                     "oxidative demethylation"
##                     "embryonic skeletal joint development"
##                     "tricuspid valve morphogenesis"
##                     "tail-anchored membrane protein insertion into ER membrane"
##                     "regulation of cardiac muscle hypertrophy"
##                     "response to injury involved in regulation of muscle adaptation"
##                     "protein side chain deglutamylation"
##                     "purine nucleoside metabolic process"
##                     "determination of heart left/right asymmetry"
##                     "formation of translation preinitiation complex"
##                     "positive regulation of signaling receptor activity"
##                     "positive regulation of hemoglobin biosynthetic process"
##                     "positive regulation of cell cycle process"
##                     "regulation of ERAD pathway"
##                     "positive regulation of pro-T cell differentiation"
##                     "lysosome organization"
##                     "tryptophan catabolic process to kynurenine"
```

```
##                      "sterol transport"
##                      "sequestering of calcium ion"
##                      "protein import into peroxisome matrix, docking"
##                      "myoblast proliferation"
##                      "circadian sleep/wake cycle, REM sleep"
##                      "mitotic sister chromatid separation"
##                      "potassium ion export"
##                      "adenylate cyclase-activating adrenergic receptor signaling pathway involved in he
##                      "hindbrain development"
##                      "tRNA re-export from nucleus"
##                      "regulation of cholesterol transport"
##                      "cardiac muscle hypertrophy in response to stress"
##                      "C-terminal protein deglutamylation"
##                      "protein K6-linked deubiquitination"
##                      "microtubule severing"
##                      "lung induction"
##                      "constitutive secretory pathway"
##                      "negative regulation of blood vessel remodeling"
##                      "ectoderm development"
##                      "negative regulation of cyclic-nucleotide phosphodiesterase activity"
##                      "triglyceride homeostasis"
##                      "negative regulation of cell death"
##                      "platelet degranulation"
##                      "positive regulation of glycogen catabolic process"
##                      "negative regulation of mitochondrial translation"
##                      "nitrogen compound metabolic process"
##                      "maintenance of ER location"
##                      "maturation of 5.8S rRNA from tricistronic rRNA transcript (SSU-rRNA, 5.8S rRNA, LS
##                      "negative regulation of tyrosine phosphorylation of STAT protein"
##                      "regulation of tissue remodeling"
##                      "cytolysis in other organism"
##                      "endosome organization"
##                      "establishment of blood-nerve barrier"
##                      "nerve development"
##                      "diterpenoid metabolic process"
##                      "tendon development"
##                      "intestinal stem cell homeostasis"
##                      "positive regulation of dendritic spine development"
##                      "cell differentiation involved in metanephros development"
##                      "monoamine transport"
##                      "positive regulation of acute inflammatory response to antigenic stimulus"
##                      "response to cobalt ion"
##                      "negative regulation of cysteine-type endopeptidase activity involved in execution
##                      "retrograde axonal transport"
##                      "response to endoplasmic reticulum stress"
##                      "tRNA export from nucleus"
##                      "general adaptation syndrome"
##                      "positive regulation of neurotrophin production"
##                      "positive regulation of lipid catabolic process"
##                      "lysosomal protein catabolic process"
##                      "T cell aggregation"
##                      "mitochondrial RNA 5'-end processing"
##                      "gene silencing by miRNA"
##                      "regulation of protein processing"
```

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```
##                     "sorbitol biosynthetic process"
##                     "inner dynein arm assembly"
##                     "cellular response to methylglyoxal"
##                     "protein import into peroxisome matrix, translocation"
##                     "positive regulation of icosanoid secretion"
##                     "post-embryonic animal organ morphogenesis"
##                     "negative regulation of Rac protein signal transduction"
##                     "pteridine-containing compound metabolic process"
##                     "negative regulation of vitamin D biosynthetic process"
##                     "bile acid metabolic process"
##                     "cellular response to magnesium ion"
##                     "dUDP biosynthetic process"
##                     "dTDP biosynthetic process"
##                     "SREBP-SCAP complex retention in endoplasmic reticulum"
##                     "regulation of endoplasmic reticulum stress-induced eIF2 alpha phosphorylation"
##                     "negative regulation of protein exit from endoplasmic reticulum"
##                     "L-aspartate import across plasma membrane"
##                     "negative regulation of cargo loading into COPII-coated vesicle"
##                     "cytoplasmic sequestering of NF-kappaB"
##                     "negative regulation of calcium ion export across plasma membrane"
##                     "negative regulation of meiotic cell cycle"
##                     "BMP signaling pathway involved in heart development"
##                     "cofactor metabolic process"
##                     "negative regulation of SNARE complex assembly"
##                     "positive regulation of protein exit from endoplasmic reticulum"
##                     "positive regulation of cytokine production"
##                     "phenylacetate catabolic process"
##                     "nicotinate nucleotide salvage"
##                     "lysine biosynthetic process via aminoadipic acid"
##                     "endocytic hemoglobin import"
##                     "NAD salvage"
##                     "chromosome passenger complex localization to spindle midzone"
##                     "cobalamin catabolic process"
##                     "negative regulation of epidermal cell differentiation"
##                     "regulation of interleukin-8 secretion"
##                     "negative regulation of oxidative stress-induced cell death"
##                     "positive regulation of cysteine-type endopeptidase activity involved in apoptotic
##                     "regulation of sarcomere organization"
##                     "regulation of dendritic spine development"
##                     "negative regulation of smooth muscle cell migration"
##                     "positive regulation of macrophage tolerance induction"
##                     "histidine catabolic process to glutamate and formamide"
##                     "histidine catabolic process to glutamate and formate"
##                     "regulation of protein complex disassembly"
##                     "cellular response to anoxia"
##                     "negative regulation of glucocorticoid secretion"
##                     "phosphatidylethanolamine biosynthetic process"
##                     "modification-dependent protein catabolic process"
##                     "mitochondrial alanyl-tRNA aminoacylation"
##                     "myelin assembly"
##                     "protein catabolic process"
##                     "regulation of endopeptidase activity"
##                     "negative regulation of endodeoxyribonuclease activity"
##                     "regulation of replicative cell aging"
```

```
##                          "mitotic DNA damage checkpoint"
##                          "positive regulation of protein autoubiquitination"
##                          "long-chain fatty acid catabolic process"
##                          "purine nucleotide catabolic process"
##                          "dGDP biosynthetic process"
##                          "response to brefeldin A"
##                          "dGMP metabolic process"
##                          "dATP metabolic process"
##                          "GDP biosynthetic process"
##                          "biphenyl catabolic process"
##                          "negative regulation of lactation"
##                          "T-tubule organization"
##                          "virion assembly"
##                          "positive regulation of collateral sprouting of injured axon"
##                          "negative regulation of dendrite extension"
##                          "positive regulation of ERBB3 signaling pathway"
##                          "negative regulation of formation of growth cone in injured axon"
##                          "monocarboxylic acid metabolic process"
##                          "neuron development"
##                          "protein delipidation"
##                          "regulation of microtubule binding"
##                          "cellular response to interleukin-6"
##                          "clustering of voltage-gated potassium channels"
##                          "negative regulation of potassium ion export"
##                          "heart valve development"
##                          "propionate catabolic process"
##                          "glycerol biosynthetic process from pyruvate"
##                          "sphingoid biosynthetic process"
##                          "negative regulation of protein targeting to mitochondrion"
##                          "establishment of endothelial intestinal barrier"
##                          "isoquinoline alkaloid metabolic process"
##                          "synaptic vesicle recycling"
##                          "heme metabolic process"
##                          "cellular response to peptide hormone stimulus"
##                          "hepatocyte homeostasis"
##                          "positive regulation of nuclear-transcribed mRNA catabolic process, deadenylation-c
##                          "response to tetrachloromethane"
##                          "cellular response to nitrosative stress"
##                          "acute inflammatory response"
##                          "glial cell migration"
##                          "tRNA N1-guanine methylation"
##                          "negative regulation of sperm capacitation"
##                          "regulation of binding of sperm to zona pellucida"
##                          "ERK1 and ERK2 cascade"
##                          "regulation of stem cell division"
##                          "negative regulation of peptidyl-serine dephosphorylation"
##                          "potassium ion transmembrane transport"
##                          "negative regulation of mitochondrial membrane permeability"
##                          "ventricular cardiac muscle cell membrane repolarization"
##                          "myeloid leukocyte differentiation"
##                          "negative regulation of glomerular filtration by angiotensin"
##                          "smooth muscle hypertrophy"
##                          "cytochrome complex assembly"
##                          "hepatic duct development"
```

```
##                         "DNA conformation change"
##                         "regulation of adaxial/abaxial pattern formation"
##                         "cerebral cortex radial glia guided migration"
##                         "pancreas development"
##                         "resolution of mitotic recombination intermediates"
##                         "proximal/distal pattern formation"
##                         "negative regulation of ERK5 cascade"
##                         "primary lung bud formation"
##                         "cellular response to organic substance"
##                         "skeletal muscle fiber differentiation"
##                         "response to caffeine"
##                         "positive regulation of extrinsic apoptotic signaling pathway in absence of ligand"
##                         "epithelial tube morphogenesis"
##                         "regulation of epithelial cell differentiation involved in kidney development"
##                         "positive regulation of glomerular filtration"
##                         "cell part morphogenesis"
##                         "enteroendocrine cell differentiation"
##                         "formaldehyde biosynthetic process"
##                         "coreceptor-mediated virion attachment to host cell"
##                         "regulation of intestinal epithelial structure maintenance"
##                         "liver morphogenesis"
##                         "mitochondrial mRNA processing"
##                         "response to nitrogen compound"
##                         "response to hydrogen sulfide"
##                         "negative regulation of cytokine production"
##                         "acetyl-CoA transport"
##                         "regulation of cell differentiation involved in embryonic placenta development"
##                         "response to muscle activity"
##                         "hypoxanthine salvage"
##                         "COPI coating of Golgi vesicle"
##                         "response to salt stress"
##                         "peptidyl-threonine dephosphorylation"
##                         "phospholipid dephosphorylation"
##                         "melanosome transport"
##                         "metanephric tubule formation"
##                         "positive regulation of choline O-acetyltransferase activity"
##                         "negative regulation of tau-protein kinase activity"
##                         "positive regulation of early endosome to recycling endosome transport"
##                         "negative regulation of neurofibrillary tangle assembly"
##                         "D-serine transport"
##                         "negative regulation of p38MAPK cascade"
##                         "tRNA modification"
##                         "renal system process"
##                         "second-messenger-mediated signaling"
##                         "regulation of mitochondrial fission"
##                         "intestinal D-glucose absorption"
##                         "ultradian rhythm"
##                         "terminal web assembly"
##                         "intrinsic apoptotic signaling pathway in response to hypoxia"
##                         "positive regulation of B cell apoptotic process"
##                         "DNA ligation involved in DNA recombination"
##                         "positive regulation of chromosome organization"
##                         "positive regulation of nitric oxide mediated signal transduction"
##                         "long-chain fatty acid biosynthetic process"
```

```
##                     "Golgi vesicle budding"
##                     "apoptotic process involved in blood vessel morphogenesis"
##                     "central nervous system neuron axonogenesis"
##                     "regulation of natural killer cell differentiation"
##                     "regulation of extrathymic T cell differentiation"
##                     "regulation of NK T cell differentiation"
##                     "negative regulation of cell cycle arrest"
##                     "response to nitroglycerin"
##                     "sebum secreting cell proliferation"
##                     "nuclear mRNA surveillance"
##                     "NIK/NF-kappaB signaling"
##                     "response to methionine"
##                     "positive regulation of leukocyte mediated cytotoxicity"
##                     "positive regulation of protein kinase C activity"
##                     "cranial nerve development"
##                     "positive regulation of binding"
##                     "negative regulation of fat cell proliferation"
##                     "apoptotic DNA fragmentation"
##                     "protein sumoylation"
##                     "positive regulation of MHC class I biosynthetic process"
##                     "regulation of fibrinolysis"
##                     "mitochondrial tryptophanyl-tRNA aminoacylation"
##                     "trophectodermal cellular morphogenesis"
##                     "cell proliferation involved in kidney development"
##                     "mesonephric duct morphogenesis"
##                     "antigen processing and presentation of peptide antigen via MHC class I"
##                     "embryonic ectodermal digestive tract development"
##                     "negative regulation of mitotic nuclear division"
##                     "regulation of ATP:ADP antiporter activity"
##                     "ER-associated misfolded protein catabolic process"
##                     "apoptotic signaling pathway"
##                     "ripoptosome assembly"
##                     "positive regulation of potassium ion transmembrane transporter activity"
##                     "positive regulation of deadenylation-independent decapping of nuclear-transcribed
##                     "negative regulation of polynucleotide adenylyltransferase activity"
##                     "negative regulation of glucokinase activity"
##                     "ectoderm formation"
##                     "regulation of vascular permeability involved in acute inflammatory response"
##                     "oviduct epithelium development"
##                     "uterine epithelium development"
##                     "nephric duct elongation"
##                     "horizontal cell localization"
##                     "axonemal microtubule depolymerization"
##                     "plus-end specific microtubule depolymerization"
##                     "renal vesicle morphogenesis"
##                     "metanephric renal vesicle morphogenesis"
##                     "dorsal spinal cord interneuron posterior axon guidance"
##                     "positive regulation of apoptotic process by virus"
##                     "fatty acid elongation"
##                     "phospholipase C-activating angiotensin-activated signaling pathway"
##                     "rRNA catabolic process"
##                     "response to insulin"
##                     "glycoside catabolic process"
##                     "glucose homeostasis"
```

```
##                     "acetylcholine biosynthetic process"
##                     "negative regulation by host of viral exo-alpha-sialidase activity"
##                     "negative regulation by host of viral glycoprotein metabolic process"
##                     "cellular chemical homeostasis"
##                     "negative regulation of exo-alpha-sialidase activity"
##                     "negative regulation of glycoprotein metabolic process"
##                     "protein localization to Golgi apparatus"
##                     "positive regulation of syncytium formation by plasma membrane fusion"
##                     "T cell differentiation in thymus"
##                     "peptidyl-lysine trimethylation"
##                     "bicarbonate transport"
##                     "lateral mesoderm development"
##                     "hepatoblast differentiation"
##                     "cellular response to lipid hydroperoxide"
##                     "response to electrical stimulus involved in regulation of muscle adaptation"
##                     "sphingolipid metabolic process"
##                     "coumarin metabolic process"
##                     "endosomal vesicle fusion"
##                     "regulation of response to osmotic stress"
##                     "establishment of protein localization to chromatin"
##                     "positive regulation of natural killer cell mediated cytotoxicity"
##                     "receptor internalization involved in canonical Wnt signaling pathway"
##                     "peroxisomal long-chain fatty acid import"
##                     "positive regulation of immunoglobulin mediated immune response"
##                     "peptidyl-lysine methylation"
##                     "regulation of mitotic recombination"
##                     "glycerol ether metabolic process"
##                     "response to interleukin-6"
##                     "positive regulation of exocytosis"
##                     "extracellular matrix constituent secretion"
##                     "negative regulation of calcium ion transport into cytosol"
##                     "regulation of chromatin disassembly"
##                     "bile acid catabolic process"
##                     "response to arsenic-containing substance"
##                     "positive regulation of exosomal secretion"
##                     "somatic hypermutation of immunoglobulin genes"
##                     "ovarian follicle development"
##                     "glutamate receptor signaling pathway"
##                     "glycine betaine biosynthetic process from choline"
##                     "negative regulation of T-helper cell differentiation"
##                     "positive regulation of nephron tubule epithelial cell differentiation"
##                     "tryptophan catabolic process to acetyl-CoA"
##                     "chemical homeostasis within a tissue"
##                     "positive regulation of isotype switching to IgA isotypes"
##                     "xenobiotic transport"
##                     "nuclear protein quality control by the ubiquitin-proteasome system"
##                     "asymmetric Golgi ribbon formation"
##                     "pancreatic A cell fate commitment"
##                     "pancreatic PP cell fate commitment"
##                     "follicular dendritic cell differentiation"
##                     "negative regulation of peptidyl-serine phosphorylation of STAT protein"
##                     "myotube differentiation"
##                     "pharyngeal arch artery morphogenesis"
##                     "regulation of extrinsic apoptotic signaling pathway"
```

```
##                        "cellular response to parathyroid hormone stimulus"
##                        "multi-organism membrane organization"
##                        "viral replication complex formation and maintenance"
##                        "negative regulation of intracellular transport"
##                        "regulation of anion transport"
##                        "postsynapse organization"
##                        "deoxynucleotide transport"
##                        "thiamine pyrophosphate transmembrane transport"
##                        "positive regulation of mast cell activation"
##                        "positive regulation of glial cell apoptotic process"
##                        "regulation of erythrocyte differentiation"
##                        "cardiac myofibril assembly"
##                        "regulation of mitochondrial outer membrane permeabilization involved in apoptotic
##                        "detection of mechanical stimulus involved in sensory perception of pain"
##                        "membrane repolarization during ventricular cardiac muscle cell action potential"
##                        "regulation of mesoderm development"
##                        "response to L-glutamate"
##                        "wound healing involved in inflammatory response"
##                        "ITP catabolic process"
##                        "methionine metabolic process"
##                        "deoxyribonucleoside triphosphate catabolic process"
##                        "pantothenate metabolic process"
##                        "positive regulation of bone resorption"
##                        "glutaminyl-tRNAGln biosynthesis via transamidation"
##                        "negative regulation of epithelial cell apoptotic process"
##                        "positive regulation of cytolysis"
##                        "receptor recycling"
##                        "regulation of viral genome replication"
##                        "positive regulation of cyclase activity"
##                        "response to stress"
##                        "epithelial cell proliferation involved in renal tubule morphogenesis"
##                        "negative regulation of potassium ion transmembrane transporter activity"
##                        "negative regulation of endocytic recycling"
##                        "labyrinthine layer blood vessel development"
##                        "ERBB signaling pathway"
##                        "neuromuscular process controlling balance"
##                        "pyrimidine nucleoside catabolic process"
##                        "deoxyadenosine catabolic process"
##                        "purine nucleotide salvage"
##                        "xanthine biosynthetic process"
##                        "negative regulation of adenosine receptor signaling pathway"
##                        "negative regulation of penile erection"
##                        "regulation of smooth muscle cell-matrix adhesion"
##                        "ubiquitin-independent protein catabolic process via the multivesicular body sortin
##                        "negative regulation of protein kinase C signaling"
##                        "regulation of cell-cell adhesion mediated by integrin"
##                        "hypothalamus cell differentiation"
##                        "positive regulation of transcription involved in exit from mitosis"
##                        "cellular process regulating host cell cycle in response to virus"
##                        "positive regulation of Golgi to plasma membrane protein transport"
##                        "brain segmentation"
##                        "strand invasion"
##                        "negative regulation of T-helper 2 cell cytokine production"
##                        "luteolysis"
```

```
##                     "intussusceptive angiogenesis"
##                     "negative regulation of immune system process"
##                     "heart valve formation"
##                     "intrahepatic bile duct development"
##                     "epithelial cell proliferation involved in prostatic bud elongation"
##                     "regulation of cell proliferation involved in tissue homeostasis"
##                     "regulation of branching involved in lung morphogenesis"
##                     "response to cGMP"
##                     "cellular response to acidic pH"
##                     "regulation of epithelial cell proliferation involved in lung morphogenesis"
##                     "negative regulation of developmental growth"
##                     "fibroblast growth factor receptor apoptotic signaling pathway"
##                     "response to L-ascorbic acid"
##                     "pyrimidine nucleotide biosynthetic process"
##                     "cardiac muscle tissue morphogenesis"
##                     "cellular response to ammonia"
##                     "development of secondary sexual characteristics"
##                     "cyclooxygenase pathway"
##                     "lipid transport"
##                     "adenosine catabolic process"
##                     "cobalamin transport"
##                     "inosine biosynthetic process"
##                     "cellular response to metal ion"
##                     "cytochrome c-heme linkage"
##                     "L-serine transport"
##                     "negative regulation of MAPK cascade"
##                     "transcription preinitiation complex assembly"
##                     "meiotic metaphase I plate congression"
##                     "meiotic spindle midzone assembly"
##                     "glucuronoside catabolic process"
##                     "negative regulation of cytoplasmic translational elongation"
##                     "negative regulation of cysteine-type endopeptidase activity involved in apoptotic
##                     "3'-phosphoadenosine 5'-phosphosulfate biosynthetic process"
##                     "mitochondrial citrate transmembrane transport"
##                     "cerebellar Purkinje cell-granule cell precursor cell signaling involved in regula
##                     "linoleic acid metabolic process"
##                     "embryonic digestive tract development"
##                     "membrane repolarization during cardiac muscle cell action potential"
##                     "response to folic acid"
##                     "calcium-independent cell-matrix adhesion"
##                     "regulation of skeletal muscle adaptation"
##                     "spermatid nucleus elongation"
##                     "nucleotide-binding oligomerization domain containing 1 signaling pathway"
##                     "cell-cell adhesion involved in gastrulation"
##                     "cellular response to leucine starvation"
##                     "regulation of insulin secretion involved in cellular response to glucose stimulus
##                     "male meiosis chromosome segregation"
##                     "positive regulation of protein localization to endoplasmic reticulum"
##                     "response to muscle stretch"
##                     "positive regulation of leukocyte tethering or rolling"
##                     "mitophagy"
##                     "peptide antigen assembly with MHC class I protein complex"
##                     "positive regulation of natural killer cell degranulation"
##                     "defense response to Gram-negative bacterium"
```

```
##                     "carbon catabolite regulation of transcription"
##                     "diacylglycerol biosynthetic process"
##                     "regulation of integrin biosynthetic process"
##                     "intermembrane sphingolipid transfer"
##                     "interleukin-6 secretion"
##                     "protein modification by small protein conjugation"
##                     "integrin biosynthetic process"
##                     "long-term synaptic depression"
##                     "endosome to melanosome transport"
##                     "L-glutamate import"
##                     "regulation of JNK cascade"
##                     "regulation of toll-like receptor signaling pathway"
##                     "negative regulation of ubiquitin-protein transferase activity"
##                     "gene expression"
##                     "positive regulation of mesenchymal cell proliferation"
##                     "'de novo' NAD biosynthetic process from tryptophan"
##                     "neural crest cell fate specification"
##                     "monovalent inorganic cation transport"
##                     "negative regulation of receptor recycling"
##                     "heterophilic cell-cell adhesion via plasma membrane cell adhesion molecules"
##                     "positive regulation of chaperone-mediated protein complex assembly"
##                     "negative regulation of histone H4-K16 acetylation"
##                     "susceptibility to T cell mediated cytotoxicity"
##                     "epoxide metabolic process"
##                     "negative regulation of G protein-coupled receptor signaling pathway"
##                     "innervation"
##                     "response to interleukin-18"
##                     "galactosylceramide biosynthetic process"
##                     "rRNA transcription"
##                     "neutrophil migration"
##                     "radial pattern formation"
##                     "actin modification"
##                     "negative regulation of stem cell population maintenance"
##                     "primary miRNA methylation"
##                     "regulation of interleukin-1-mediated signaling pathway"
##                     "neural crest cell migration involved in autonomic nervous system development"
##                     "cellular response to UV-B"
##                     "positive regulation of mesenchymal stem cell differentiation"
##                     "smooth muscle hyperplasia"
##                     "response to radiation"
##                     "polyphosphate catabolic process"
##                     "spermatogenesis, exchange of chromosomal proteins"
##                     "miRNA loading onto RISC involved in gene silencing by miRNA"
##                     "skin morphogenesis"
##                     "cellular response to cGMP"
##                     "regulation of release of sequestered calcium ion into cytosol by sarcoplasmic ret:
##                     "positive regulation of epithelial cell proliferation"
##                     "miRNA mediated inhibition of translation"
##                     "histone H4-R3 methylation"
##                     "protein-containing complex assembly"
##                     "T cell cytokine production"
##                     "assembly of large subunit precursor of preribosome"
##                     "skeletal muscle satellite cell maintenance involved in skeletal muscle regenerati
##                     "negative regulation of collagen biosynthetic process"
```

```
##                     "epithelial cell maturation"
##                     "CUT catabolic process"
##                     "protein K11-linked deubiquitination"
##                     "germinal center B cell differentiation"
##                     "intrinsic apoptotic signaling pathway in response to osmotic stress"
##                     "regulation of transcription from RNA polymerase II promoter in response to iron"
##                     "ER to Golgi ceramide transport"
##                     "positive regulation of mitochondrial membrane permeability"
##                     "modification of morphology or physiology of other organism"
##                     "regulation of endoplasmic reticulum stress-induced intrinsic apoptotic signaling
##                     "positive regulation of T cell mediated immunity"
##                     "regulation of cellular component movement"
##                     "negative regulation of cellular extravasation"
##                     "negative regulation of neutrophil degranulation"
##                     "regulation of cytosolic calcium ion concentration"
##                     "negative regulation of stem cell proliferation"
##                     "calcium ion export across plasma membrane"
##                     "cardiac right ventricle morphogenesis"
##                     "GMP salvage"
##                     "amacrine cell differentiation"
##                     "cell death in response to oxidative stress"
##                     "hypoxanthine metabolic process"
##                     "positive regulation of interleukin-6-mediated signaling pathway"
##                     "condensed mesenchymal cell proliferation"
##                     "beta-glucoside catabolic process"
##                     "positive regulation of neuronal action potential"
##                     "fructose biosynthetic process"
##                     "diaphragm development"
##                     "barbed-end actin filament capping"
##                     "positive regulation of killing of cells of other organism"
##                     "mitochondrial DNA metabolic process"
##                     "nuclear retention of unspliced pre-mRNA at the site of transcription"
##                     "mitotic cytokinetic process"
##                     "N-acetylneuraminate catabolic process"
##                     "positive regulation of histone H3-K14 acetylation"
##                     "negative regulation by symbiont of host apoptotic process"
##                     "antigen processing and presentation of exogenous peptide antigen via MHC class I,
##                     "medium-chain fatty-acyl-CoA metabolic process"
##                     "male germ-line sex determination"
##                     "nucleotide phosphorylation"
##                     "stem cell division"
##                     "sleep"
##                     "mast cell mediated immunity"
##                     "ceramide translocation"
##                     "negative regulation of apoptotic signaling pathway"
##                     "phosphatidylinositol metabolic process"
##                     "axo-dendritic transport"
##                     "regulation of cardiac muscle contraction by calcium ion signaling"
##                     "regulation of BMP signaling pathway"
##                     "DNA biosynthetic process"
##                     "glomerular capillary formation"
##                     "positive regulation of cardiac muscle tissue development"
##                     "homotypic cell-cell adhesion"
##                     "rRNA acetylation involved in maturation of SSU-rRNA"
```

```
##                     "mitochondrial protein catabolic process"
##                     "cellular response to follicle-stimulating hormone stimulus"
##                     "neutrophil differentiation"
##                     "response to curcumin"
##                     "mitral valve morphogenesis"
##                     "regulation of chorionic trophoblast cell proliferation"
##                     "glial cell development"
##                     "negative regulation of germinal center formation"
##                     "maltose metabolic process"
##                     "trophectodermal cell proliferation"
##                     "regulation of vacuole fusion, non-autophagic"
##                     "DNA endoreduplication"
##                     "choline catabolic process"
##                     "regulation of histone deacetylase activity"
##                     "pre-mRNA catabolic process"
##                     "glycerolipid metabolic process"
##                     "negative regulation of sodium ion transmembrane transporter activity"
##                     "negative regulation of growth of symbiont in host"
##                     "telomeric loop disassembly"
##                     "phosphatidylcholine acyl-chain remodeling"
##                     "glycerol catabolic process"
##                     "cytoplasmic sequestering of CFTR protein"
##                     "B cell affinity maturation"
##                     "regulation of B cell cytokine production"
##                     "cellular response to interleukin-7"
##                     "negative regulation of deoxyribonuclease activity"
##                     "negative regulation of apoptotic DNA fragmentation"
##                     "cellular response to phorbol 13-acetate 12-myristate"
##                     "regulation of protein kinase A signaling"
##                     "cargo loading into vesicle"
##                     "positive regulation of hyaluronan biosynthetic process"
##                     "apoptotic process involved in embryonic digit morphogenesis"
##                     "negative regulation of defense response to bacterium"
##                     "magnesium ion homeostasis"
##                     "protein targeting to vacuole"
##                     "positive regulation of protein localization to cell cortex"
##                     "negative regulation of caveolin-mediated endocytosis"
##                     "T follicular helper cell differentiation"
##                     "pyrimidine-containing compound salvage"
##                     "negative regulation of anion channel activity"
##                     "negative regulation of nucleotide metabolic process"
##                     "intermembrane lipid transfer"
##                     "regulation of DNA-templated transcription, initiation"
##                     "acyl carnitine transmembrane transport"
##                     "regulation of osteoclast development"
##                     "peroxisome proliferator activated receptor signaling pathway"
##                     "nuclear-transcribed mRNA catabolic process, deadenylation-independent decay"
##                     "nuclear retention of pre-mRNA with aberrant 3'-ends at the site of transcription"
##                     "cellular response to fructose stimulus"
##                     "regulation of keratinocyte apoptotic process"
##                     "positive regulation of intracellular mRNA localization"
##                     "outflow tract morphogenesis"
##                     "regulation of ion transmembrane transport"
##                     "regulation of stem cell proliferation"
```

```
##                        "response to vitamin A"
##                        "response to vitamin B6"
##                        "microtubule-dependent intracellular transport of viral material towards nucleus"
##                        "thigmotaxis"
##                        "positive regulation of immunoglobulin production"
##                        "FAD biosynthetic process"
##                        "fatty acid beta-oxidation using acyl-CoA oxidase"
##                        "determination of adult lifespan"
##                        "molybdenum incorporation into molybdenum-molybdopterin complex"
##                        "glycine receptor clustering"
##                        "cellular response to staurosporine"
##                        "ventricular septum development"
##                        "positive regulation of deoxyribonuclease activity"
##                        "regulation of cellular respiration"
##                        "negative regulation of endodermal cell differentiation"
##                        "melanin metabolic process"
##                        "negative regulation of axon extension"
##                        "positive regulation of low-density lipoprotein particle receptor catabolic process
##                        "negative regulation of cellular pH reduction"
##                        "CD8-positive, alpha-beta T cell lineage commitment"
##                        "negative regulation of retinal cell programmed cell death"
##                        "pigment granule organization"
##                        "inner medullary collecting duct development"
##                        "postsynaptic membrane organization"
##                        "blood coagulation, extrinsic pathway"
##                        "positive regulation of mitochondrial fusion"
##                        "chemoattraction of axon"
##                        "ferric iron import across cell outer membrane"
##                        "positive regulation of interferon-alpha biosynthetic process"
##                        "CDP-diacylglycerol metabolic process"
##                        "positive regulation of connective tissue replacement"
##                        "prostaglandin secretion"
##                        "histidine catabolic process"
##                        "regulation of autophagosome assembly"
##                        "asymmetric cell division"
##                        "vesicle transport along actin filament"
##                        "cellular response to toxic substance"
##                        "positive regulation of glycogen biosynthetic process"
##                        "induction by virus of host cell-cell fusion"
##                        "helper T cell enhancement of adaptive immune response"
##                        "ovulation cycle"
##                        "regulation of relaxation of cardiac muscle"
##                        "regulation of cell junction assembly"
##                        "GDP-mannose metabolic process"
##                        "neutrophil aggregation"
##                        "negative regulation of constitutive secretory pathway"
##                        "multi-organism toxin transport"
##                        "L-kynurenine catabolic process"
##                        "Schwann cell differentiation"
##                        "positive regulation of toll-like receptor signaling pathway"
##                        "positive regulation of microtubule binding"
##                        "ameboidal-type cell migration"
##                        "negative regulation of megakaryocyte differentiation"
##                        "nucleoside triphosphate catabolic process"
```

```
##                     "blastocyst development"
##                     "endoplasmic reticulum tubular network formation"
##                     "T cell activation"
##                     "negative regulation of oxidative stress-induced intrinsic apoptotic signaling path
##                     "negative regulation of transcription from RNA polymerase II promoter by glucose"
##                     "negative regulation of detection of glucose"
##                     "mRNA splicing, via endonucleolytic cleavage and ligation"
##                     "mRNA cleavage involved in mRNA processing"
##                     "peptidyl-serine trans-autophosphorylation"
##                     "G1 to G0 transition"
##                     "negative regulation of protein glutathionylation"
##                     "aminergic neurotransmitter loading into synaptic vesicle"
##                     "negative regulation of actin nucleation"
##                     "histone mRNA catabolic process"
##                     "negative regulation of DNA damage checkpoint"
##                     "macrophage apoptotic process"
##                     "positive regulation of tolerance induction"
##                     "positive regulation of proton-transporting ATP synthase activity, rotational mecha
##                     "mitochondrion migration along actin filament"
##                     "L-alanine metabolic process"
##                     "dorsal/ventral axis specification"
##                     "proline transmembrane transport"
##                     "porphyrin-containing compound metabolic process"
##                     "negative regulation of vesicle fusion"
##                     "translation reinitiation"
##                     "response to cycloheximide"
##                     "apoptotic process in bone marrow"
##                     "metal ion transport"
##                     "positive regulation of cardiolipin metabolic process"
##                     "immortalization of host cell by virus"
##                     "uracil metabolic process"
##                     "sperm mitochondrion organization"
##                     "dUMP metabolic process"
##                     "adenosine biosynthetic process"
##                     "establishment of vesicle localization"
##                     "paramesonephric duct development"
##                     "cellular response to benomyl"
##                     "prolyl-tRNA aminoacylation"
##                     "high-density lipoprotein particle assembly"
##                     "myoblast fate determination"
##                     "cellular response to aldosterone"
##                     "positive regulation of eosinophil differentiation"
##                     "icosanoid biosynthetic process"
##                     "oviduct development"
##                     "camera-type eye photoreceptor cell differentiation"
##                     "positive regulation of synapse assembly"
##                     "protein maturation by copper ion transfer"
##                     "positive regulation of Schwann cell chemotaxis"
##                     "syncytium formation by plasma membrane fusion"
##                     "response to protozoan"
##                     "detection of chemical stimulus involved in sensory perception of sweet taste"
##                     "tRNA wobble base cytosine methylation"
##                     "innate immune response activating cell surface receptor signaling pathway"
##                     "activation of immune response"
```

```
##                     "endothelial cell activation involved in immune response"
##                     "CD4-positive, CD25-positive, alpha-beta regulatory T cell differentiation"
##                     "plasmacytoid dendritic cell antigen processing and presentation"
##                     "negative regulation of antigen processing and presentation of peptide antigen via
##                     "regulation of cytokine production involved in immune response"
##                     "positive regulation of antimicrobial humoral response"
##                     "negative regulation of antibacterial peptide production"
##                     "intracellular defense response"
##                     "detection of hypoxic conditions in blood by carotid body chemoreceptor signaling"
##                     "detection of oxygen"
##                     "negative regulation of the force of heart contraction by chemical signal"
##                     "cardiac atrium formation"
##                     "sinus venosus morphogenesis"
##                     "cardioblast anterior-lateral migration"
##                     "growth plate cartilage axis specification"
##                     "disaccharide metabolic process"
##                     "GPI anchor release"
##                     "polyamine catabolic process"
##                     "sphinganine metabolic process"
##                     "sperm displacement"
##                     "lipopolysaccharide catabolic process"
##                     "nucleoside monophosphate biosynthetic process"
##                     "purine nucleoside monophosphate catabolic process"
##                     "nucleoside diphosphate metabolic process"
##                     "nucleoside diphosphate biosynthetic process"
##                     "nucleoside diphosphate catabolic process"
##                     "purine ribonucleoside diphosphate catabolic process"
##                     "pyrimidine deoxyribonucleotide catabolic process"
##                     "response to salicylic acid"
##                     "hormone transport"
##                     "response to alkaline pH"
##                     "negative regulation of cytoplasmic mRNA processing body assembly"
##                     "meiotic sister chromatid cohesion involved in meiosis I"
##                     "transport along microtubule"
##                     "positive regulation of high-density lipoprotein particle clearance"
##                     "regulation of satellite cell activation involved in skeletal muscle regeneration"
##                     "myoblast fusion involved in skeletal muscle regeneration"
##                     "nitrate transport"
##                     "lactate transport"
##                     "propanoate transport"
##                     "sucrose transport"
##                     "aromatic amino acid transport"
##                     "branched-chain amino acid transport"
##                     "lysine transport"
##                     "methionine transport"
##                     "purine nucleoside transmembrane transport"
##                     "pyrimidine nucleoside transport"
##                     "purine nucleotide transport"
##                     "short-chain fatty acid import"
##                     "coenzyme A catabolic process"
##                     "snoRNA catabolic process"
##                     "carotenoid metabolic process"
##                     "carotene metabolic process"
##                     "carotene catabolic process"
```

```
##                     "xanthophyll metabolic process"
##                     "antibiotic metabolic process"
##                     "peptidyl-serine octanoylation"
##                     "protein esterification"
##                     "thiocyanate metabolic process"
##                     "intracellular transport of viral protein in host cell"
##                     "siderophore biosynthetic process"
##                     "inositol catabolic process"
##                     "galactolipid catabolic process"
##                     "allantoin biosynthetic process"
##                     "aromatic compound biosynthetic process"
##                     "urate catabolic process"
##                     "organophosphate metabolic process"
##                     "propionate metabolic process, methylcitrate cycle"
##                     "cyclic-nucleotide-mediated signaling"
##                     "commissural neuron differentiation in spinal cord"
##                     "rhombomere 2 development"
##                     "cerebellar Purkinje cell layer formation"
##                     "negative regulation of cell motility involved in cerebral cortex radial glia guide
##                     "dermatan sulfate catabolic process"
##                     "phosphatidylinositol catabolic process"
##                     "regulation of vesicle fusion"
##                     "negative regulation of brain-derived neurotrophic factor receptor signaling pathwa
##                     "trypsinogen activation"
##                     "transposition"
##                     "reverse transcription involved in RNA-mediated transposition"
##                     "otolith formation"
##                     "granulocyte macrophage colony-stimulating factor production"
##                     "interleukin-8 production"
##                     "regulation of natural killer cell differentiation involved in immune response"
##                     "protein insertion into mitochondrial inner membrane from matrix side"
##                     "beta-alanine biosynthetic process via 3-ureidopropionate"
##                     "carbohydrate homeostasis"
##                     "protein galactosylation at cell surface"
##                     "cellular response to zinc ion starvation"
##                     "enkephalin processing"
##                     "islet amyloid polypeptide processing"
##                     "tRNA 3'-trailer cleavage, endonucleolytic"
##                     "cell competition in a multicellular organism"
##                     "vitamin A biosynthetic process"
##                     "borate transmembrane transport"
##                     "carnosine biosynthetic process"
##                     "neuromast hair cell development"
##                     "memory T cell activation"
##                     "T-helper 2 cell activation"
##                     "response to nitrogen dioxide"
##                     "nitric oxide storage"
##                     "dITP catabolic process"
##                     "cellular response to copper ion starvation"
##                     "corticosterone secretion"
##                     "tendon formation"
##                     "recruitment of mRNA capping enzyme to RNA polymerase II holoenzyme complex"
##                     "GDP-fucose import into Golgi lumen"
##                     "sequestering of nodal from receptor via nodal binding"
```

```
##                     "urokinase plasminogen activator signaling pathway"
##                     "fluid transport"
##                     "late meiotic recombination nodule assembly"
##                     "regulation of cytolysis"
##                     "thyroid hormone catabolic process"
##                     "negative regulation of hair cycle"
##                     "negative regulation of endodermal cell fate specification"
##                     "D-xylose catabolic process"
##                     "amino acid activation for nonribosomal peptide biosynthetic process"
##                     "regulation of translation by machinery localization"
##                     "sodium-dependent organic anion transport"
##                     "regulation of skeletal muscle tissue regeneration"
##                     "acetoacetic acid metabolic process"
##                     "regulation of generation of precursor metabolites and energy"
##                     "ncRNA polyadenylation"
##                     "ncRNA polyadenylation involved in polyadenylation-dependent ncRNA catabolic proces
##                     "intestinal lipid catabolic process"
##                     "cellular carbohydrate catabolic process"
##                     "clearance of foreign intracellular DNA by conversion of DNA cytidine to uridine"
##                     "otolith mineralization"
##                     "basophil activation"
##                     "positive regulation of neutrophil differentiation"
##                     "dUMP catabolic process"
##                     "thymidine biosynthetic process"
##                     "L-arabinose metabolic process"
##                     "development of primary male sexual characteristics"
##                     "negative regulation of calcium-dependent cell-cell adhesion"
##                     "negative regulation of mitotic centrosome separation"
##                     "borate transport"
##                     "compound eye corneal lens development"
##                     "regulation of eye pigmentation"
##                     "spermatocyte division"
##                     "long-day photoperiodism"
##                     "negative regulation of collateral sprouting in absence of injury"
##                     "pronephros development"
##                     "adenohypophysis morphogenesis"
##                     "regulation of thymidylate synthase biosynthetic process"
##                     "cocaine metabolic process"
##                     "regulation of B cell activation"
##                     "detection of stimulus involved in sensory perception"
##                     "detection of chemical stimulus involved in sensory perception"
##                     "positive regulation of neurotransmitter uptake"
##                     "barbed-end actin filament uncapping"
##                     "regulation of timing of anagen"
##                     "lysophospholipid transport"
##                     "response to defense-related host nitric oxide production"
##                     "Golgi to secretory granule transport"
##                     "linear vestibuloocular reflex"
##                     "negative regulation of protein glycosylation"
##                     "vestibular receptor cell development"
##                     "female mating behavior"
##                     "negative regulation of ovulation"
##                     "regulation of cytokine activity"
##                     "lobar bronchus epithelium development"
```

```
##                       "regulation of homologous chromosome segregation"
##                       "BMP signaling pathway involved in mesodermal cell fate specification"
##                       "negative regulation of canonical Wnt signaling pathway involved in neural plate a
##                       "limb epidermis development"
##                       "cardiac cell fate specification"
##                       "sinoatrial node cell differentiation"
##                       "cardioblast migration to the midline involved in heart field formation"
##                       "lipid tube assembly involved in organelle fusion"
##                       "negative regulation of hair follicle placode formation"
##                       "acetylcholine secretion"
##                       "actin filament bundle organization"
##                       "antifungal innate immune response"
##                       "negative regulation of SCF-dependent proteasomal ubiquitin-dependent catabolic pr
##                       "regulation of mucus secretion"
##                       "necrotic cell death"
##                       "positive regulation of hepatocyte differentiation"
##                       "positive regulation of ERK5 cascade"
##                       "negative regulation of leukocyte proliferation"
##                       "seminal clot liquefaction"
##                       "phosphatidylserine exposure on apoptotic cell surface"
##                       "nuclear polyadenylation-dependent snoRNA catabolic process"
##                       "nuclear polyadenylation-dependent snRNA catabolic process"
##                       "snoRNA polyadenylation"
##                       "RNA 3' uridylation"
##                       "cellular response to triglyceride"
##                       "cellular response to genistein"
##                       "regulation of zinc ion transport"
##                       "granulocyte colony-stimulating factor production"
##                       "protein transport within extracellular region"
##                       "endoplasmic reticulum tubular network maintenance"
##                       "negative regulation of podosome assembly"
##                       "chemokine (C-C motif) ligand 11 production"
##                       "proximal/distal pattern formation involved in metanephric nephron development"
##                       "cellular lactam catabolic process"
##                       "signal transduction involved in cell cycle checkpoint"
##                       "purine-containing compound biosynthetic process"
##                       "interleukin-18 secretion"
##                       "amino acid homeostasis"
##                       "regulation of nitric oxide metabolic process"
##                       "cholesterol ester hydrolysis involved in cholesterol transport"
##                       "mesendoderm migration"
##                       "regulation of establishment of blood-brain barrier"
##                       "cellular response to azide"
##                       "mitochondrial double-strand break repair via homologous recombination"
##                       "inorganic cation import across plasma membrane"
##                       "folate transmembrane transport"
##                       "retrograde trans-synaptic signaling by nitric oxide, modulating synaptic transmiss
##                       "trans-synaptic signaling by nitric oxide, modulating synaptic transmission"
##                       "negative regulation of ERBB4 signaling pathway"
##                       "positive regulation of collagen catabolic process"
##                       "negative regulation of arachidonic acid secretion"
##                       "positive regulation of CD4-positive, alpha-beta T cell costimulation"
##                       "negative regulation of D-amino-acid oxidase activity"
##                       "negative regulation of fermentation"
```

```
##                     "regulation of ERBB signaling pathway"
##                     "positive regulation of store-operated calcium channel activity"
##                     "organonitrogen compound catabolic process"
##                     "cellular response to ergosterol"
##                     "XDP catabolic process"
##                     "beta-carotene metabolic process"
##                     "positive regulation of meiotic cell cycle phase transition"
##                     "positive regulation of sphingolipid mediated signaling pathway"
##                     "positive regulation of calcium ion import into sarcoplasmic reticulum"
##                     "positive regulation of hepatocyte growth factor receptor signaling pathway"
##                     "negative regulation of acrosome reaction"
##                     "negative regulation of intracellular calcium activated chloride channel activity"
##                     "positive regulation of exo-alpha-sialidase activity"
##                     "negative regulation of renal phosphate excretion"
##                     "cellular response to L-arginine"
##                     "regulation of ATP metabolic process"
##                     "regulation of hemopoiesis"
##                     "negative regulation of hemopoiesis"
##                     "regulation of viral life cycle"
##                     "negative regulation of establishment of T cell polarity"
##                     "monounsaturated fatty acid catabolic process"
##                     "regulation of epithelial cell apoptotic process"
##                     "regulation of serine C-palmitoyltransferase activity"
##                     "positive regulation of calcium ion transmembrane transport"
##                     "positive regulation of somatic stem cell division"
##                     "regulation of AMPA glutamate receptor clustering"
##                     "negative regulation of protein serine/threonine phosphatase activity"
##                     "positive regulation of protein serine/threonine phosphatase activity"
##                     "negative regulation of aspartic-type peptidase activity"
##                     "positive regulation of retrograde transport, endosome to Golgi"
##                     "positive regulation of fertilization"
##                     "regulation of cellular response to manganese ion"
##                     "negative regulation of protein localization to cell leading edge"
##                     "cartilage homeostasis"
##                     "paranodal junction maintenance"
##                     "histone H2A-T120 phosphorylation"
##                     "lipid transport across blood brain barrier"
##                     "hyaloid vascular plexus regression"
##                     "dark adaptation"
##                     "mitotic spindle microtubule depolymerization"
##                     "positive regulation of mammary stem cell proliferation"
##                     "positive regulation of fatty acid transport"
##                     "positive regulation of fibronectin-dependent thymocyte migration"
##                     "positive regulation of eosinophil migration"
##                     "regulation of glycogen (starch) synthase activity"
##                     "negative regulation of CD8-positive, alpha-beta T cell proliferation"
##                     "positive regulation of interleukin-4-dependent isotype switching to IgE isotypes"
##                     "regulation of thyroid hormone generation"
##                     "negative regulation of miRNA catabolic process"
##                     "histone H3-T3 phosphorylation involved in chromosome passenger complex localizatio
##                     "negative regulation of Rho guanyl-nucleotide exchange factor activity"
##                     "nicotinate transport"
##                     "miRNA metabolic process"
##                     "leukocyte cell-cell adhesion"
```

```
##                      "negative regulation of RNA export from nucleus"
##                      "metanephric nephron tubule morphogenesis"
##                      "excitatory synapse assembly"
##                      "positive regulation of dopamine receptor signaling pathway"
##                      "fatty-acyl-CoA transport"
##                      "peroxisomal membrane transport"
##                      "very long-chain fatty-acyl-CoA catabolic process"
##                      "regulation of arginine metabolic process"
##                      "cilium or flagellum-dependent cell motility"
##                      "ovarian follicle atresia"
##                      "negative regulation of T cell mediated cytotoxicity"
##                      "glandular epithelial cell differentiation"
##                      "tRNA wobble adenosine to inosine editing"
##                      "CD8-positive, alpha-beta T cell differentiation involved in immune response"
##                      "detection of tumor cell"
##                      "granuloma formation"
##                      "regulation of cellular extravasation"
##                      "lymph circulation"
##                      "regulation of systemic arterial blood pressure mediated by a chemical signal"
##                      "starch catabolic process"
##                      "dADP phosphorylation"
##                      "dGDP phosphorylation"
##                      "glutamate catabolic process via 2-oxoglutarate"
##                      "AMP phosphorylation"
##                      "ATP generation from ADP"
##                      "sperm individualization"
##                      "mating"
##                      "10-formyltetrahydrofolate metabolic process"
##                      "putrescine biosynthetic process"
##                      "axis specification"
##                      "regulation of platelet-derived growth factor receptor signaling pathway"
##                      "cholesterol transport involved in cholesterol storage"
##                      "fructose transmembrane transport"
##                      "guanine transport"
##                      "N-terminal peptidyl-L-cysteine N-palmitoylation"
##                      "hexose metabolic process"
##                      "nitrogen utilization"
##                      "roof plate formation"
##                      "cerebellar molecular layer morphogenesis"
##                      "regulation of transcription from RNA polymerase II promoter involved in spinal co:
##                      "melatonin biosynthetic process"
##                      "fructoselysine metabolic process"
##                      "regulation of myeloid dendritic cell activation"
##                      "DNA methylation on adenine"
##                      "saturated monocarboxylic acid metabolic process"
##                      "unsaturated monocarboxylic acid metabolic process"
##                      "hypoxanthine transport"
##                      "thymine transport"
##                      "protein deglutamylation"
##                      "protein branching point deglutamylation"
##                      "monocyte extravasation"
##                      "pore formation in membrane of other organism"
##                      "response to erythropoietin"
##                      "cleavage furrow ingression"
```

```
##                         "triglyceride acyl-chain remodeling"
##                         "D-alanine transport"
##                         "intercellular bridge organization"
##                         "macromolecule glycosylation"
##                         "negative regulation of growth of symbiont on or near host surface"
##                         "regulation of T-helper 1 cell differentiation"
##                         "negative regulation of glial cell differentiation"
##                         "spermine catabolic process"
##                         "nicotinamide nucleotide metabolic process"
##                         "ceramide catabolic process"
##                         "positive regulation of eye pigmentation"
##                         "epinephrine transport"
##                         "compound eye development"
##                         "host-mediated regulation of intestinal microbiota composition"
##                         "negative regulation of NK T cell activation"
##                         "methotrexate transport"
##                         "ingression involved in gastrulation with mouth forming second"
##                         "negative regulation of phagocytosis, engulfment"
##                         "negative regulation of N-terminal protein palmitoylation"
##                         "dichotomous subdivision of terminal units involved in ureteric bud branching"
##                         "establishment of glial blood-brain barrier"
##                         "CDP phosphorylation"
##                         "dAMP phosphorylation"
##                         "CMP phosphorylation"
##                         "dCMP phosphorylation"
##                         "GDP phosphorylation"
##                         "UDP phosphorylation"
##                         "dCDP phosphorylation"
##                         "TDP phosphorylation"
##                         "regulation of neuron projection regeneration"
##                         "extracellular exosome assembly"
##                         "nephrogenic mesenchyme development"
##                         "nephron tubule formation"
##                         "metanephric capsule development"
##                         "metanephric glomerular mesangial cell differentiation"
##                         "metanephric capsule specification"
##                         "regulation of superoxide metabolic process"
##                         "postsynaptic density organization"
##                         "defense response to other organism"
##                         "trans-Golgi network membrane organization"
##                         "intestinal folate absorption"
##                         "regulation of DNA strand resection involved in replication fork processing"
##                         "positive regulation of plasma membrane bounded cell projection assembly"
##                         "negative regulation of cellular response to heat"
##                         "negative regulation of glucocorticoid mediated signaling pathway"
##                         "sarcosine catabolic process"
##                         "positive regulation of spermidine biosynthetic process"
##                         "positive regulation of lymphangiogenesis"
##                         "negative regulation of meiotic cell cycle phase transition"
##                         "negative regulation of keratinocyte apoptotic process"
##                         "positive regulation of prolactin signaling pathway"
##                         "negative regulation of primary amine oxidase activity"
##                         "negative regulation of eosinophil activation"
##                         "negative regulation of activation of Janus kinase activity"
```

```
##                     "urate homeostasis"
##                     "regulation of cardiac muscle hypertrophy in response to stress"
##                     "negative regulation of intestinal absorption"
##                     "fructose import across plasma membrane"
##                     "negative regulation of glutamate metabolic process"
##                     "negative regulation of eosinophil migration"
##                     "positive regulation of tendon cell differentiation"
##                     "naphthalene metabolic process"
##                     "positive regulation of TORC1 signaling"
##                     "positive regulation of IP-10 production"
##                     "protein K69-linked ufmylation"
##                     "primary heart field specification"
##                     "sinoatrial valve morphogenesis"
##                     "negative regulation of protein localization to cell surface"
##                     "positive regulation of cell cycle G1/S phase transition"
##                     "sulfur amino acid biosynthetic process"
##                     "tRNA 3'-terminal CCA addition"
##                     "negative regulation of antigen processing and presentation"
##                     "positive regulation of immunoglobulin biosynthetic process"
##                     "natural killer cell inhibitory signaling pathway"
##                     "uridine catabolic process"
##                     "UDP catabolic process"
##                     "transposition, DNA-mediated"
##                     "patched ligand maturation"
##                     "positive regulation of muscle hyperplasia"
##                     "tyrosine transport"
##                     "arsonoacetate metabolic process"
##                     "D-amino acid catabolic process"
##                     "L-alanine catabolic process, by transamination"
##                     "urea metabolic process"
##                     "cerebellar granular layer maturation"
##                     "radial glia guided migration of cerebellar granule cell"
##                     "negative regulation of nuclease activity"
##                     "riboflavin transport"
##                     "interleukin-13 production"
##                     "interleukin-5 production"
##                     "S-methylmethionine metabolic process"
##                     "lipid oxidation"
##                     "plasma lipoprotein particle oxidation"
##                     "oxidative single-stranded DNA demethylation"
##                     "mitophagy by induced vacuole formation"
##                     "lactate transmembrane transport"
##                     "D-serine catabolic process"
##                     "cellular response to mycotoxin"
##                     "nitric oxide-cGMP-mediated signaling pathway"
##                     "nitrate metabolic process"
##                     "cellular amide metabolic process"
##                     "MAPK export from nucleus"
##                     "MAPK phosphatase export from nucleus, leptomycin B sensitive"
##                     "extracellular polysaccharide biosynthetic process"
##                     "ADP catabolic process"
##                     "ether lipid metabolic process"
##                     "IDP catabolic process"
##                     "establishment of animal organ orientation"
```

```
##                     "male meiosis chromosome separation"
##                     "detoxification of nitrogen compound"
##                     "D-alanine catabolic process"
##                     "mammary gland bud morphogenesis"
##                     "lymphatic endothelial cell fate commitment"
##                     "bone trabecula morphogenesis"
##                     "oncosis"
##                     "cellular response to interleukin-11"
##                     "positive regulation of chemokine (C-C motif) ligand 1 production"
##                     "cellular response to dithiothreitol"
##                     "regulation of protein serine/threonine phosphatase activity"
##                     "cell communication involved in cardiac conduction"
##                     "regulation of cell motility involved in somitogenic axis elongation"
##                     "response to alcohol"
##                     "cell aggregation"
##                     "cardiac endothelial to mesenchymal transition"
##                     "regulation of engulfment of apoptotic cell"
##                     "positive regulation of non-canonical Wnt signaling pathway via JNK cascade"
##                     "negative regulation of convergent extension involved in axis elongation"
##                     "nucleoside phosphate catabolic process"
##                     "pyruvate transmembrane transport"
##                     "zeaxanthin biosynthetic process"
##                     "regulation of mitochondrial DNA metabolic process"
##                     "regulation of inward rectifier potassium channel activity"
##                     "regulation of cyclic nucleotide-gated ion channel activity"
##                     "positive regulation of histone H3-K27 trimethylation"
##                     "regulation of retina development in camera-type eye"
##                     "regulation of melanosome transport"
##                     "positive regulation of protein localization to ciliary membrane"
##                     "regulation of collagen fibril organization"
##                     "positive regulation of otic vesicle morphogenesis"
##                     "regulation of adipose tissue development"
##                     "regulation of myofibroblast contraction"
##                     "negative regulation of canonical Wnt signaling pathway involved in osteoblast dif
##                     "invadopodium organization"
##                     "negative regulation of postsynaptic density organization"
##                     "signal clustering"
##                     "positive regulation of lymphocyte migration"
##                     "regulation of dendritic cell differentiation"
##                     "sulfate assimilation"
##                     "negative regulation of biosynthetic process"
##                     "lipid phosphorylation"
##                     "response to UV-A"
##                     "peptide metabolic process"
##                     "protein complex oligomerization"
##                     "trehalose metabolism in response to stress"
##                     "negative regulation of smooth muscle cell chemotaxis"
##                     "hindlimb morphogenesis"
##                     "positive regulation of hydrogen peroxide-induced cell death"
##                     "behavioral fear response"
##                     "negative regulation of filopodium assembly"
##                     "cellular response to cobalt ion"
##                     "globoside biosynthetic process"
##                     "histamine biosynthetic process"
```

```
##                      "acrosome matrix dispersal"
##                      "leukocyte mediated immunity"
##                      "positive regulation of myeloid leukocyte differentiation"
##                      "involuntary skeletal muscle contraction"
##                      "histidine metabolic process"
##                      "purine nucleobase transport"
##                      "detection of light stimulus"
##                      "regulation of collagen catabolic process"
##                      "CMP-N-acetylneuraminate transmembrane transport"
##                      "polyol transport"
##                      "amine transport"
##                      "pyrimidine nucleobase transport"
##                      "tetracycline transport"
##                      "cerebellar granular layer morphogenesis"
##                      "medullary reticular formation development"
##                      "hindbrain tangential cell migration"
##                      "stabilization of membrane potential"
##                      "regulation of polarized epithelial cell differentiation"
##                      "negative regulation of gonadotropin secretion"
##                      "toll-like receptor 5 signaling pathway"
##                      "fertilization, exchange of chromosomal proteins"
##                      "interleukin-13-mediated signaling pathway"
##                      "response to interleukin-13"
##                      "cellular modified amino acid catabolic process"
##                      "mating plug formation"
##                      "plasma membrane ATP synthesis coupled electron transport"
##                      "negative regulation of GTP cyclohydrolase I activity"
##                      "DNA hypermethylation"
##                      "intermediate filament-based process"
##                      "purine ribonucleoside catabolic process"
##                      "carboxylic acid transport"
##                      "autonomic nervous system development"
##                      "parasympathetic nervous system development"
##                      "positive regulation of behavior"
##                      "post-embryonic digestive tract morphogenesis"
##                      "efferent axon development in a lateral line nerve"
##                      "interleukin-1 alpha secretion"
##                      "positive regulation of transport"
##                      "meiotic sister chromatid cohesion"
##                      "proprioception involved in equilibrioception"
##                      "histamine uptake"
##                      "positive regulation of cytolysis in other organism"
##                      "cardiac muscle tissue growth"
##                      "seminal vesicle epithelium development"
##                      "alveolar primary septum development"
##                      "retrotrapezoid nucleus neuron differentiation"
##                      "negative regulation of neuroblast migration"
##                      "cellular response to cortisol stimulus"
##                      "cellular response to alkaline pH"
##                      "vitamin A import"
##                      "pyrimidine-containing compound transmembrane transport"
##                      "eosinophil migration"
##                      "regulation of establishment of planar polarity"
##                      "cap2 mRNA methylation"
```

```
##                      "spinal cord motor neuron migration"
##                      "symmetric cell division"
##                      "zinc ion import into synaptic vesicle"
##                      "positive regulation of uterine smooth muscle relaxation"
##                      "mesenchymal cell differentiation involved in bone development"
##                      "regulation of copper ion transmembrane transport"
##                      "regulation of protein localization to synapse"
##                      "negative regulation of lens fiber cell differentiation"
##                      "regulation of skeletal muscle acetylcholine-gated channel clustering"
##                      "negative regulation of skeletal muscle acetylcholine-gated channel clustering"
##                      "negative regulation of protein localization to cell cortex"
##                      "purine nucleobase transmembrane transport"
##                      "carboxylic acid transmembrane transport"
##                      "negative regulation of maintenance of permeability of blood-brain barrier"
##                      "positive regulation of membrane permeability"
##                      "gap junction-mediated intercellular transport"
##                      "cellular stress response to acidic pH"
##                      "regulation of ceramide biosynthetic process"
##                      "negative regulation of ovarian follicle development"
##                      "positive regulation of neutrophil extravasation"
##                      "negative regulation of pre-miRNA processing"
##                      "positive regulation of lens epithelial cell proliferation"
##                      "negative regulation of transcription elongation by RNA polymerase I"
##                      "membrane fission"
##                      "preassembly of GPI anchor in ER membrane"
##                      "B cell differentiation"
##                      "auditory receptor cell morphogenesis"
##                      "tRNA wobble cytosine modification"
##                      "regulation of T cell cytokine production"
##                      "corneocyte development"
##                      "cellular cadmium ion homeostasis"
##                      "response to nickel cation"
##                      "negative regulation of gliogenesis"
##                      "nitrite transport"
##                      "urate transport"
##                      "GDP-fucose transmembrane transport"
##                      "UDP-xylose transmembrane transport"
##                      "basic amino acid transport"
##                      "norepinephrine transport"
##                      "polyprenol catabolic process"
##                      "beta-alanine metabolic process"
##                      "short-chain fatty acid catabolic process"
##                      "GABAergic neuron differentiation in basal ganglia"
##                      "regulation of vitamin metabolic process"
##                      "interleukin-3 production"
##                      "negative regulation of MyD88-dependent toll-like receptor signaling pathway"
##                      "carbohydrate transmembrane transport"
##                      "sequestering of BMP from receptor via BMP binding"
##                      "cytokine metabolic process"
##                      "GDP-L-fucose salvage"
##                      "regulation of amyloid precursor protein biosynthetic process"
##                      "protein palmitoleylation"
##                      "MHC class II biosynthetic process"
##                      "L-methylmalonyl-CoA metabolic process"
```

```
##                     "interleukin-1 beta biosynthetic process"
##                     "norepinephrine uptake"
##                     "granulosa cell development"
##                     "regulation of spongiotrophoblast cell proliferation"
##                     "fungiform papilla development"
##                     "positive regulation of transcription from RNA polymerase II promoter in response
##                     "regulation of enamel mineralization"
##                     "divalent metal ion transport"
##                     "divalent metal ion export"
##                     "regulation of MAPK export from nucleus"
##                     "protein localization to vacuole"
##                     "SA node cell to atrial cardiac muscle cell signaling"
##                     "AV node cell to bundle of His cell signaling"
##                     "regulation of neutrophil chemotaxis"
##                     "negative regulation of neural crest formation"
##                     "phagosome-lysosome fusion involved in apoptotic cell clearance"
##                     "walking behavior"
##                     "renal tubular secretion"
##                     "cerebellar neuron development"
##                     "calmodulin dependent kinase signaling pathway"
##                     "regulation of heart looping"
##                     "positive regulation of histone H3-K27 acetylation"
##                     "L-arginine transport"
##                     "regulation of response to DNA damage checkpoint signaling"
##                     "response to chloroquine"
##                     "negative regulation of Notch signaling pathway involved in somitogenesis"
##                     "positive regulation of hexokinase activity"
##                     "response to dopamine"
##                     "positive regulation of atrial cardiac muscle cell action potential"
##                     "positive regulation of voltage-gated potassium channel activity involved in atrial
##                     "positive regulation of regulation of vascular smooth muscle cell membrane depolari
##                     "negative regulation of neuronal action potential"
##                     "negative regulation of type B pancreatic cell proliferation"
##                     "negative regulation of macroautophagy by TORC1 signaling"
##                     "positive regulation of cell proliferation in midbrain"
##                     "protein depalmitoleylation"
##                     "cellular response to glial cell derived neurotrophic factor"
##                     "tRNA demethylation"
##                     "regulation of animal organ morphogenesis"
##                     "negative regulation of fibroblast growth factor receptor signaling pathway involv
##                     "positive regulation of unsaturated fatty acid biosynthetic process"
##                     "canalicular bile acid transport"
##                     "positive regulation of sodium:proton antiporter activity"
##                     "negative regulation of collateral sprouting of intact axon in response to injury"
##                     "positive regulation of transcription from RNA polymerase II promoter by glucose"
##                     "immune response-inhibiting cell surface receptor signaling pathway"
##                     "norepinephrine metabolic process"
##                     "allantoin catabolic process"
##                     "negative regulation of exit from mitosis"
##                     "detection of chemical stimulus involved in sensory perception of sour taste"
##                     "positive regulation of immune system process"
##                     "positive regulation of cilium movement"
##                     "tyrosine metabolic process"
##                     "cellular modified amino acid metabolic process"
```

```
##                     "threonine transport"
##                     "cell wall macromolecule catabolic process"
##                     "regulation of lipid transport"
##                     "B cell receptor transport into membrane raft"
##                     "chemokine receptor transport out of membrane raft"
##                     "negative regulation of transforming growth factor beta3 production"
##                     "positive regulation of toll-like receptor 7 signaling pathway"
##                     "hydroxyproline transport"
##                     "detection of bacterial lipoprotein"
##                     "cellular macromolecule catabolic process"
##                     "protection of DNA demethylation of female pronucleus"
##                     "extrathymic T cell selection"
##                     "positive regulation of TRAIL biosynthetic process"
##                     "positive regulation of lipid metabolic process"
##                     "uridine metabolic process"
##                     "stilbene catabolic process"
##                     "negative regulation of positive chemotaxis"
##                     "hepoxilin metabolic process"
##                     "regulation of sequestering of calcium ion"
##                     "homologous chromosome movement towards spindle pole involved in homologous chromos
##                     "elastin catabolic process"
##                     "positive regulation of cytosolic calcium ion concentration involved in egg activa
##                     "regulation of meiosis I"
##                     "glycine secretion, neurotransmission"
##                     "N-acylphosphatidylethanolamine metabolic process"
##                     "regulation of neutrophil mediated cytotoxicity"
##                     "conversion of methionyl-tRNA to N-formyl-methionyl-tRNA"
##                     "nephron morphogenesis"
##                     "glomerular parietal epithelial cell differentiation"
##                     "regulation of branching involved in ureteric bud morphogenesis"
##                     "mesenchymal stem cell proliferation"
##                     "urea homeostasis"
##                     "ncRNA transcription"
##                     "negative regulation of inflammatory response to wounding"
##                     "regulation of cobalamin metabolic process"
##                     "negative regulation of lymphocyte chemotaxis"
##                     "leukotriene A4 metabolic process"
##                     "ceramide 1-phosphate transport"
##                     "positive regulation of protein maturation"
##                     "basic amino acid transmembrane transport"
##                     "negative regulation of Wnt signaling pathway involved in digestive tract morphoger
##                     "lipoxin biosynthetic process"
##                     "lipoxin B4 biosynthetic process"
##                     "histone methylation"
##                     "metanephric epithelium development"
##                     "positive regulation of viral entry into host cell"
##                     "tryptophan metabolic process"
##                     "embryonic forelimb morphogenesis"
##                     "erythrocyte development"
##                     "heterotypic cell-cell adhesion"
##                     "erythrocyte maturation"
##                     "maintenance of animal organ identity"
##                     "positive regulation of protein polymerization"
##                     "anterior head development"
```

```
##                    "tongue development"
##                    "hypochlorous acid biosynthetic process"
##                    "B-1a B cell differentiation"
##                    "regulation of systemic arterial blood pressure by aortic arch baroreceptor feedba
##                    "dADP biosynthetic process"
##                    "polyphosphate metabolic process"
##                    "ganglion mother cell fate determination"
##                    "regulation of rhodopsin gene expression"
##                    "sensory organ boundary specification"
##                    "biotin transport"
##                    "pantothenate transmembrane transport"
##                    "peptidyl-glutamic acid modification"
##                    "response to pheromone"
##                    "pentose metabolic process"
##                    "pentose catabolic process"
##                    "retinol transport"
##                    "male pronucleus assembly"
##                    "positive regulation of hippo signaling"
##                    "positive regulation of SNARE complex assembly"
##                    "osteoclast maturation"
##                    "zonula adherens assembly"
##                    "regulation of phosphorus metabolic process"
##                    "quorum sensing involved in interaction with host"
##                    "positive regulation of intestinal epithelial structure maintenance"
##                    "fibroblast growth factor receptor signaling pathway involved in neural plate ante
##                    "taste bud development"
##                    "establishment or maintenance of monopolar cell polarity"
##                    "connective tissue development"
##                    "positive regulation of erythrocyte enucleation"
##                    "sodium-dependent organic cation transport"
##                    "negative regulation of transmembrane receptor protein serine/threonine kinase sig
##                    "regulation of high-density lipoprotein particle assembly"
##                    "positive regulation of glomerulus development"
##                    "regulation of intrinsic apoptotic signaling pathway by p53 class mediator"
##                    "positive regulation of lamellipodium organization"
##                    "regulation of nuclear migration along microtubule"
##                    "negative regulation of amacrine cell differentiation"
##                    "negative regulation of adipose tissue development"
##                    "response to gold nanoparticle"
##                    "regulation of endocannabinoid signaling pathway"
##                    "regulation of fibroblast growth factor receptor signaling pathway involved in neu
##                    "negative regulation of barbed-end actin filament capping"
##                    "photoreceptor cell maintenance"
##                    "platelet activating factor biosynthetic process"
##                    "regulation of actin filament polymerization"
##                    "response to calcium ion"
##                    "cell death"
##                    "positive regulation of helicase activity"
##                    "interferon-beta production"
##                    "oxidative single-stranded RNA demethylation"
##                    "neurotransmitter biosynthetic process"
##                    "positive regulation of synaptic transmission, glutamatergic"
##                    "autophagy"
##                    "mitral valve development"
```

```
##                     "tricuspid valve development"
##                     "septum primum development"
##                     "nucleotide catabolic process"
##                     "cobalamin biosynthetic process"
##                     "molybdate ion transport"
##                     "leucine transport"
##                     "inorganic diphosphate transport"
##                     "mitochondria-nucleus signaling pathway"
##                     "negative regulation of interleukin-1 alpha production"
##                     "embryonic heart tube elongation"
##                     "carboxylic acid catabolic process"
##                     "organophosphate catabolic process"
##                     "lateral mesoderm formation"
##                     "spontaneous exocytosis of neurotransmitter"
##                     "positive regulation of calcium-independent cell-cell adhesion"
##                     "negative regulation of cell growth involved in contact inhibition"
##                     "regulation of white fat cell proliferation"
##                     "negative regulation of transforming growth factor beta production"
##                     "atrial cardiac muscle cell to AV node cell communication by electrical coupling"
##                     "bundle of His cell to Purkinje myocyte communication by electrical coupling"
##                     "Purkinje myocyte to ventricular cardiac muscle cell communication by electrical c
##                     "positive regulation of mRNA modification"
##                     "glutamate homeostasis"
##                     "intermicrovillar adhesion"
##                     "multi organism cell adhesion"
##                     "regulation of Purkinje myocyte action potential"
##                     "endosome to plasma membrane protein transport"
##                     "negative regulation of hippocampal neuron apoptotic process"
##                     "regulation of renin secretion into blood stream"
##                     "negative regulation of glutamate receptor signaling pathway"
##                     "positive regulation of engulfment of apoptotic cell"
##                     "regulation of autophagosome maturation"
##                     "negative regulation of lung ciliated cell differentiation"
##                     "positive regulation of lung goblet cell differentiation"
##                     "negative regulation of erythrocyte apoptotic process"
##                     "protein localization to photoreceptor connecting cilium"
##                     "positive regulation of protein oxidation"
##                     "vasomotion"
##                     "anti-Mullerian hormone signaling pathway"
##                     "positive regulation of pancreatic stellate cell proliferation"
##                     "negative regulation of vasculogenesis"
##                     "lipoxin A4 biosynthetic process"
##                     "pyridoxal phosphate biosynthetic process"
##                     "negative regulation of dendritic cell cytokine production"
##                     "negative regulation of FasL biosynthetic process"
##                     "negative regulation of complement activation, lectin pathway"
##                     "gamma-aminobutyric acid receptor clustering"
##                     "mitochondrial RNA metabolic process"
##                     "nitric oxide production involved in inflammatory response"
##                     "negative regulation of T cell antigen processing and presentation"
##                     "positive regulation of natural killer cell cytokine production"
##                     "phosphatidylserine catabolic process"
##                     "asparagine transport"
##                     "photoreceptor cell morphogenesis"
```

```
##                     "aromatic amino acid family metabolic process"
##                     "deoxyribonucleoside monophosphate catabolic process"
##                     "riboflavin biosynthetic process"
##                     "FMN biosynthetic process"
##                     "cellular response to iron ion starvation"
##                     "formate transport"
##                     "mannitol transport"
##                     "putrescine transport"
##                     "somatic motor neuron differentiation"
##                     "trochlear nerve formation"
##                     "locus ceruleus development"
##                     "olfactory lobe development"
##                     "gonadotropin secretion"
##                     "negative regulation of granulocyte macrophage colony-stimulating factor production"
##                     "negative regulation of mononuclear cell proliferation"
##                     "asparagine catabolic process via L-aspartate"
##                     "L-lysine catabolic process to acetyl-CoA via L-pipecolate"
##                     "toll-like receptor 10 signaling pathway"
##                     "negative regulation of interferon-beta secretion"
##                     "embryonic cleavage"
##                     "pore formation in membrane of other organism during symbiotic interaction"
##                     "positive regulation of interleukin-5 biosynthetic process"
##                     "regulation of lipoprotein metabolic process"
##                     "regulation of corticotropin secretion"
##                     "negative regulation of corticotropin secretion"
##                     "disruption by host of symbiont cells"
##                     "positive regulation of amino acid transport"
##                     "regulation of transcription involved in lymphatic endothelial cell fate commitment"
##                     "cell migration involved in heart development"
##                     "positive regulation of triglyceride lipase activity"
##                     "urea transmembrane transport"
##                     "oxygen metabolic process"
##                     "adenylate cyclase-activating adrenergic receptor signaling pathway involved in car
##                     "L-lysine import across plasma membrane"
##                     "L-ornithine import across plasma membrane"
##                     "negative regulation of corticotropin-releasing hormone receptor activity"
##                     "benzoyl-CoA metabolic process"
##                     "positive regulation of protein depolymerization"
##                     "positive regulation of relaxation of cardiac muscle"
##                     "positive regulation of inward rectifier potassium channel activity"
##                     "negative regulation of membrane hyperpolarization"
##                     "negative regulation of potassium ion export across plasma membrane"
##                     "negative regulation of antigen processing and presentation of endogenous peptide a
##                     "positive regulation of endothelial cell-matrix adhesion via fibronectin"
##                     "negative regulation of membrane repolarization during ventricular cardiac muscle c
##                     "regulation of male germ cell proliferation"
##                     "positive regulation of glutamine transport"
##                     "positive regulation of gamma-delta T cell activation involved in immune response"
##                     "malonyl-CoA catabolic process"
##                     "nonassociative learning"
##                     "positive regulation of myoblast differentiation"
##                     "positive regulation of RNA interference"
##                     "stress-activated MAPK cascade"
##                     "response to nutrient levels"
```

```
##                     "positive regulation of cardioblast proliferation"
##                     "lactosylceramide biosynthetic process"
##                     "noradrenergic neuron fate commitment"
##                     "purine nucleobase catabolic process"
##                     "thymidine catabolic process"
##                     "melanin biosynthetic process from tyrosine"
##                     "neuroblast fate determination"
##                     "menaquinone biosynthetic process"
##                     "detection of gravity"
##                     "specification of animal organ identity"
##                     "regulation of microtubule nucleation"
##                     "iodide transport"
##                     "nucleoside transport"
##                     "uridine transport"
##                     "beta-alanine biosynthetic process"
##                     "vestibular nucleus development"
##                     "monocyte homeostasis"
##                     "pronephric nephron tubule development"
##                     "thiamine diphosphate metabolic process"
##                     "vitamin K biosynthetic process"
##                     "glucoside transport"
##                     "regulation of cholesterol biosynthetic process"
##                     "negative regulation of complement activation, alternative pathway"
##                     "detection of mechanical stimulus involved in sensory perception"
##                     "regulation of timing of subpallium neuron differentiation"
##                     "ureteric bud elongation"
##                     "lung neuroendocrine cell differentiation"
##                     "stomach neuroendocrine cell differentiation"
##                     "carotid body glomus cell differentiation"
##                     "negative regulation of mesenchymal cell apoptotic process involved in mesonephric
##                     "cellular response to cholesterol"
##                     "macromolecule depalmitoylation"
##                     "regulation of carbohydrate metabolic process by regulation of transcription from
##                     "regulation of store-operated calcium channel activity"
##                     "nucleoside transmembrane transport"
##                     "positive regulation of hypoxia-inducible factor-1alpha signaling pathway"
##                     "regulation of sperm capacitation"
##                     "negative regulation of electron transfer activity"
##                     "negative regulation of fatty acid beta-oxidation using acyl-CoA dehydrogenase"
##                     "positive regulation of platelet formation"
##                     "ceramide phosphoethanolamine biosynthetic process"
##                     "eosinophil homeostasis"
##                     "basophil homeostasis"
##                     "canonical Wnt signaling pathway involved in metanephric kidney development"
##                     "regulation of cardiac muscle cell action potential involved in regulation of cont
##                     "melanosome assembly"
##                     "response to interleukin-1"
##                     "negative regulation of retinoic acid receptor signaling pathway"
##                     "meiotic DNA double-strand break formation"
##                     "male germ cell proliferation"
##                     "NMDA selective glutamate receptor signaling pathway"
##                     "glandular epithelial cell maturation"
##                     "regulation of cilium movement"
##                     "asparagine metabolic process"
```

```
##                     "acylglycerol metabolic process"
##                     "mRNA localization resulting in posttranscriptional regulation of gene expression"
##                     "regulation of acetylcholine secretion, neurotransmission"
##                     "sialic acid transport"
##                     "purine ribonucleotide transport"
##                     "nuclear migration along microtubule"
##                     "P granule organization"
##                     "ER-dependent peroxisome organization"
##                     "spermine acetylation"
##                     "putrescine acetylation"
##                     "protein localization to myelin sheath abaxonal region"
##                     "cellular response to interleukin-13"
##                     "peptidyl-histidine dephosphorylation"
##                     "sodium-independent organic anion transport"
##                     "regulation of ion transport"
##                     "nor-spermidine metabolic process"
##                     "negative regulation of lyase activity"
##                     "acylglycerol homeostasis"
##                     "colon epithelial cell migration"
##                     "cellular response to growth hormone stimulus"
##                     "cell motility in response to calcium ion"
##                     "response to mitochondrial depolarisation"
##                     "spontaneous synaptic transmission"
##                     "neurotransmitter receptor cycle"
##                     "postsynaptic neurotransmitter receptor cycle"
##                     "ER-dependent peroxisome localization"
##                     "negative regulation of heart looping"
##                     "negative regulation of cardiac chamber formation"
##                     "response to fenofibrate"
##                     "glycine import across plasma membrane"
##                     "presynaptic active zone assembly"
##                     "glial cell proliferation"
##                     "mitotic recombination"
##                     "cellular response to nitrite"
##                     "response to norepinephrine"
##                     "positive regulation of mitochondrial DNA metabolic process"
##                     "positive regulation of muscle tissue development"
##                     "positive regulation of glomerular visceral epithelial cell apoptotic process"
##                     "cellular response to resveratrol"
##                     "positive regulation of progesterone biosynthetic process"
##                     "ERBB3 signaling pathway"
##                     "cytoplasm protein quality control by the ubiquitin-proteasome system"
##                     "regulation of microvillus length"
##                     "muscle cell fate determination"
##                     "response to lead ion"
##                     "immune response in nasopharyngeal-associated lymphoid tissue"
##                     "tRNA C5-cytosine methylation"
##                     "type B pancreatic cell fate commitment"
##                     "egg activation"
##                     "regulation of collagen metabolic process"
##                     "negative regulation of phosphatidylcholine catabolic process"
##                     "negative regulation of intestinal phytosterol absorption"
##                     "negative regulation of toll-like receptor 7 signaling pathway"
##                     "plasma lipoprotein particle remodeling"
```

```
##                       "female pronucleus assembly"
##                       "RNA repair"
##                       "enterobactin transport"
##                       "dolichyl monophosphate biosynthetic process"
##                       "negative regulation of memory T cell differentiation"
##                       "negative T cell selection"
##                       "amide biosynthetic process"
##                       "cellular amide catabolic process"
##                       "regulation of gamma-delta T cell differentiation"
##                       "negative regulation of intestinal cholesterol absorption"
##                       "negative regulation of interleukin-1 alpha secretion"
##                       "regulation of liquid surface tension"
##                       "subpallium neuron fate commitment"
##                       "ventral spinal cord interneuron fate determination"
##                       "calcium activated phosphatidylserine scrambling"
##                       "metanephric connecting tubule development"
##                       "regulation of plasma lipoprotein particle levels"
##                       "phosphatidylserine exposure on blood platelet"
##                       "cap1 mRNA methylation"
##                       "inorganic cation transmembrane transport"
##                       "vesicle tethering to endoplasmic reticulum"
##                       "positive regulation of cellular response to heat"
##                       "regulation of cellular response to insulin stimulus"
##                       "positive regulation of anion channel activity"
##                       "regulation of superoxide dismutase activity"
##                       "positive regulation of potassium ion export"
##                       "negative regulation of anti-Mullerian hormone signaling pathway"
##                       "response to polycyclic arene"
##                       "response to L-arginine"
##                       "arginine transmembrane transport"
##                       "regulation of vascular smooth muscle cell dedifferentiation"
##                       "retinal cell apoptotic process"
##                       "regulation of oxidative phosphorylation uncoupler activity"
##                       "positive regulation of eosinophil chemotaxis"
##                       "positive regulation of dendritic cell chemotaxis"
##                       "negative regulation of CD4-positive, alpha-beta T cell activation"
##                       "negative regulation of chromosome organization"
##                       "regulation of transcription from RNA polymerase II promoter by glucose"
##                       "anterior compartment pattern formation"
##                       "posterior compartment specification"
##                       "sphingomyelin catabolic process"
##                       "immune response-regulating signaling pathway"
##                       "DNA modification"
##                       "amino-acid betaine catabolic process"
##                       "ethanolamine metabolic process"
##                       "neuropeptide catabolic process"
##                       "chemorepulsion involved in interneuron migration from the subpallium to the cortex
##                       "putrescine biosynthetic process from arginine"
##                       "negative regulation of cell-cell adhesion mediated by integrin"
##                       "glutathione transmembrane transport"
##                       "genitalia morphogenesis"
##                       "regulation of interleukin-8 biosynthetic process"
##                       "regulation of granulocyte macrophage colony-stimulating factor biosynthetic proces
##                       "mannan catabolic process"
```

```
##                       "regulation of muscle organ development"
##                       "regulation of homocysteine metabolic process"
##                       "dichotomous subdivision of terminal units involved in lung branching"
##                       "response to heparin"
##                       "mastication"
##                       "epithelium migration"
##                       "positive regulation of chylomicron remnant clearance"
##                       "heme export"
##                       "hematopoietic stem cell migration to bone marrow"
##                       "learned vocalization behavior"
##                       "sphingolipid translocation"
##                       "intestinal hexose absorption"
##                       "negative regulation of oligodendrocyte apoptotic process"
##                       "negative regulation of G1/S transition of mitotic cell cycle by negative regulatio
##                       "negative regulation of relaxation of muscle"
##                       "regulation of calcium ion transmembrane transport"
##                       "regulation of lactation"
##                       "response to 3-methylcholanthrene"
##                       "regulation of granulosa cell apoptotic process"
##                       "negative regulation of telomerase RNA reverse transcriptase activity"
##                       "negative regulation of saliva secretion"
##                       "hard palate morphogenesis"
##                       "negative regulation of renal albumin absorption"
##                       "positive regulation of interferon-beta production"
##                       "RNA biosynthetic process"
##                       "negative regulation of release of cytochrome c from mitochondria"
##                       "negative regulation of ribosome biogenesis"
##                       "cell proliferation in midbrain"
##                       "sequestering of zinc ion"
##                       "N-terminal protein amino acid modification"
##                       "T cell proliferation involved in immune response"
##                       "T cell tolerance induction"
##                       "UDP-N-acetylglucosamine catabolic process"
##                       "pyrimidine nucleobase catabolic process"
##                       "uracil catabolic process"
##                       "acetylcholine catabolic process"
##                       "histidine transport"
##                       "urea transport"
##                       "prenylcysteine metabolic process"
##                       "negative regulation of synaptic transmission, cholinergic"
##                       "NAD transmembrane transport"
##                       "indole metabolic process"
##                       "neurotransmitter receptor biosynthetic process"
##                       "deoxycytidine metabolic process"
##                       "phosphorylated carbohydrate dephosphorylation"
##                       "regulation of cardiac muscle tissue development"
##                       "positive regulation of phospholipid translocation"
##                       "cellular response to pH"
##                       "cell proliferation in bone marrow"
##                       "protein localization involved in establishment of planar polarity"
##                       "malonate catabolic process"
##                       "agmatine biosynthetic process"
##                       "double-strand break repair via classical nonhomologous end joining"
##                       "positive regulation of cellular response to hypoxia"
```

```
##                    "gentamycin metabolic process"
##                    "arsenate ion transmembrane transport"
##                    "negative regulation of calcium ion import into sarcoplasmic reticulum"
##                    "negative regulation of gap junction assembly"
##                    "positive regulation of interleukin-17 secretion"
##                    "positive regulation of phosphate transmembrane transport"
##                    "gastrulation"
##                    "toll-like receptor 9 signaling pathway"
##                    "negative regulation of delayed rectifier potassium channel activity"
##                    "vitamin B6 metabolic process"
##                    "antimicrobial humoral response"
##                    "neural retina development"
##                    "negative regulation of histone H3-K36 methylation"
##                    "negative regulation of tooth mineralization"
##                    "acetylcholine catabolic process in synaptic cleft"
##                    "pulmonary valve formation"
##                    "transcription elongation from mitochondrial promoter"
##                    "amino-acid betaine metabolic process"
##                    "glycosylceramide metabolic process"
##                    "oligopeptide transport"
##                    "cellular component disassembly involved in execution phase of apoptosis"
##                    "regulation of cytoplasmic mRNA processing body assembly"
##                    "skeletal muscle satellite cell proliferation"
##                    "esophagus smooth muscle contraction"
##                    "regulation of isoprenoid metabolic process"
##                    "muscle cell proliferation"
##                    "positive regulation of myeloid cell apoptotic process"
##                    "cell cycle comprising mitosis without cytokinesis"
##                    "toll-like receptor 6 signaling pathway"
##                    "coenzyme A transmembrane transport"
##                    "foramen ovale closure"
##                    "DNA rewinding"
##                    "chemokine biosynthetic process"
##                    "interleukin-13 biosynthetic process"
##                    "granulocyte macrophage colony-stimulating factor biosynthetic process"
##                    "regulation of vacuole organization"
##                    "connective tissue growth factor biosynthetic process"
##                    "N-acetylneuraminate biosynthetic process"
##                    "prevention of polyspermy"
##                    "drug transport across blood-nerve barrier"
##                    "detection of oxidative stress"
##                    "L-methionine salvage"
##                    "mitochondria-associated ubiquitin-dependent protein catabolic process"
##                    "AMP transport"
##                    "negative regulation of intracellular protein transport"
##                    "negative regulation of nodal signaling pathway involved in determination of latera
##                    "negative regulation of hematopoietic progenitor cell differentiation"
##                    "positive regulation of G1 to G0 transition"
##                    "cellular response to butyrate"
##                    "regulation of retrograde protein transport, ER to cytosol"
##                    "negative regulation of antifungal innate immune response"
##                    "fibronectin fibril organization"
##                    "positive regulation of invadopodium disassembly"
##                    "UDP-N-acetylglucosamine transmembrane transport"
```

```
##                      "positive regulation of mesoderm development"
##                      "positive regulation of metanephric glomerular visceral epithelial cell development"
##                      "positive regulation of renal albumin absorption"
##                      "negative regulation of metanephric mesenchymal cell migration"
##                      "negative regulation of receptor catabolic process"
##                      "positive regulation of developmental growth"
##                      "positive regulation of intermediate filament depolymerization"
##                      "positive regulation of cellular respiration"
##                      "Sertoli cell proliferation"
##                      "histamine catabolic process"
##                      "salivary gland morphogenesis"
##                      "pyruvate oxidation"
##                      "regulation of gamma-aminobutyric acid secretion"
##                      "mRNA modification"
##                      "rhombomere development"
##                      "prenylcysteine catabolic process"
##                      "interleukin-15 production"
##                      "positive regulation of monophenol monooxygenase activity"
##                      "negative regulation of protein import into nucleus, translocation"
##                      "toll-like receptor 1 signaling pathway"
##                      "toll-like receptor 8 signaling pathway"
##                      "oligopeptide transmembrane transport"
##                      "T-helper 2 cell cytokine production"
##                      "positive regulation of mast cell activation by Fc-epsilon receptor signaling pathway"
##                      "regulation of fusion of sperm to egg plasma membrane"
##                      "regulation of follicle-stimulating hormone secretion"
##                      "negative regulation of timing of catagen"
##                      "response to defense-related host reactive oxygen species production"
##                      "vestibular reflex"
##                      "regulation of response to interferon-gamma"
##                      "blood vessel endothelial cell differentiation"
##                      "regulation of hair cycle by canonical Wnt signaling pathway"
##                      "negative regulation of protein K48-linked ubiquitination"
##                      "cellular response to vitamin K"
##                      "cellular response to type I interferon"
##                      "chemokine (C-C motif) ligand 5 production"
##                      "actin filament debranching"
##                      "negative regulation of protein glycosylation in Golgi"
##                      "negative regulation of bone trabecula formation"
##                      "regulation of lymphocyte chemotaxis"
##                      "positive regulation of melanosome transport"
##                      "regulation of cellular protein catabolic process"
##                      "negative regulation of VCP-NPL4-UFD1 AAA ATPase complex assembly"
##                      "polyuridylation-dependent mRNA catabolic process"
##                      "positive regulation of leukocyte apoptotic process"
##                      "positive regulation of fibroblast migration"
##                      "negative regulation of histone acetylation"
##                      "base-excision repair, AP site formation"
##                      "regulation of protein K48-linked deubiquitination"
##                      "glomerulus morphogenesis"
##                      "nephron tubule epithelial cell differentiation"
##                      "positive regulation of viral budding via host ESCRT complex"
##                      "mitochondrial RNA catabolic process"
##                      "defense response to tumor cell"
```

```
##                      "peptidyl-tyrosine sulfation"
##                      "glucosylceramide biosynthetic process"
##                      "xanthine catabolic process"
##                      "thiamine diphosphate biosynthetic process"
##                      "10-formyltetrahydrofolate catabolic process"
##                      "ferrous iron transport"
##                      "lead ion transport"
##                      "creatine transmembrane transport"
##                      "vitelline membrane formation"
##                      "protein transport into membrane raft"
##                      "gonad morphogenesis"
##                      "RNA import into mitochondrion"
##                      "insulin receptor internalization"
##                      "regulation of circulating fibrinogen levels"
##                      "adhesion of symbiont to host cell"
##                      "regulation of endothelial cell differentiation"
##                      "acylglycerol catabolic process"
##                      "negative regulation of eye pigmentation"
##                      "negative regulation of hepatocyte growth factor biosynthetic process"
##                      "camera-type eye photoreceptor cell fate commitment"
##                      "spleen trabecula formation"
##                      "adrenal chromaffin cell differentiation"
##                      "positive regulation of cardiac endothelial to mesenchymal transition"
##                      "ferrous iron import"
##                      "cellular response to sterol depletion"
##                      "endocannabinoid signaling pathway"
##                      "mitochondrial mRNA polyadenylation"
##                      "dorsal spinal cord interneuron anterior axon guidance"
##                      "positive regulation of transcription from RNA polymerase II promoter involved in
##                      "ferrous iron export across plasma membrane"
##                      "regulation of response to endoplasmic reticulum stress"
##                      "negative regulation of inner ear receptor cell differentiation"
##                      "positive regulation of bone mineralization"
##                      "embryo development"
##                      "ESCRT III complex assembly"
##                      "spermatid development"
##                      "phosphorylation"
##                      "regulation of cardiac muscle contraction by regulation of the release of sequeste
##                      "dorsal aorta morphogenesis"
##                      "calcium-independent cell-cell adhesion via plasma membrane cell-adhesion molecule
##                      "defense response to Gram-positive bacterium"
##                      "negative regulation of zinc ion transmembrane import"
##                      "detoxification of cadmium ion"
##                      "response to alkaloid"
##                      "dendritic spine morphogenesis"
##                      "immunoglobulin heavy chain V-D-J recombination"
##                      "ribosomal subunit export from nucleus"
##                      "cell killing"
##                      "activation of plasma proteins involved in acute inflammatory response"
##                      "peptide secretion"
##                      "corneocyte desquamation"
##                      "positive regulation of metabolic process"
##                      "regulation of mitochondrial fusion"
##                      "regulation of eIF2 alpha phosphorylation by heme"
```

```
##                     "proteoglycan catabolic process"
##                     "S-adenosylmethionine cycle"
##                     "auditory receptor cell fate specification"
##                     "positive regulation of inner ear auditory receptor cell differentiation"
##                     "negative regulation of translational initiation by iron"
##                     "negative regulation of hemoglobin biosynthetic process"
##                     "chemical homeostasis"
##                     "detection of temperature stimulus involved in thermoception"
##                     "adipose tissue development"
##                     "positive regulation of fat cell proliferation"
##                     "negative regulation of hepatocyte differentiation"
##                     "specification of loop of Henle identity"
##                     "metanephric macula densa development"
##                     "metanephric DCT cell differentiation"
##                     "cellular response to methyl methanesulfonate"
##                     "regulation of actin cytoskeleton organization by cell-cell adhesion"
##                     "intestinal lipid absorption"
##                     "response to capsazepine"
##                     "positive regulation of cell communication by electrical coupling involved in cardi
##                     "negative regulation of hepatocyte growth factor receptor signaling pathway"
##                     "negative regulation of cellular response to vascular endothelial growth factor sti
##                     "negative regulation of cystathionine beta-synthase activity"
##                     "negative regulation of epithelium regeneration"
##                     "atrioventricular canal morphogenesis"
##                     "regulation of cardiac neural crest cell migration involved in outflow tract morph
##                     "negative regulation of cornification"
##                     "regulation of cell proliferation involved in heart morphogenesis"
##                     "negative regulation of cellular response to hepatocyte growth factor stimulus"
##                     "regulation of interferon-gamma production"
##                     "glycine transport"
##                     "self proteolysis"
##                     "regulation of protein localization to nucleolus"
##                     "mRNA methylation"
##                     "drug transmembrane transport"
##                     "positive regulation of type III hypersensitivity"
##                     "positive regulation of type I hypersensitivity"
##                     "ubiquitin-dependent protein catabolic process via the multivesicular body sorting
##                     "inhibition of neuroepithelial cell differentiation"
##                     "IgG immunoglobulin transcytosis in epithelial cells mediated by FcRn immunoglobuli
##                     "antigen processing and presentation of peptide antigen via MHC class II"
##                     "negative regulation of natural killer cell cytokine production"
##                     "growth plate cartilage chondrocyte proliferation"
##                     "CMP salvage"
##                     "serotonin transport"
##                     "pyrimidine nucleotide transport"
##                     "copulation"
##                     "lipoate biosynthetic process"
##                     "polarity specification of proximal/distal axis"
##                     "regulation of receptor biosynthetic process"
##                     "negative regulation of gamma-aminobutyric acid secretion"
##                     "positive regulation of serotonin secretion"
##                     "spinal cord patterning"
##                     "floor plate morphogenesis"
##                     "cell envelope organization"
```

```
##                     "dicarboxylic acid metabolic process"
##                     "D-gluconate catabolic process"
##                     "UDP-glucuronate metabolic process"
##                     "axial mesodermal cell fate specification"
##                     "regulation of skeletal muscle tissue development"
##                     "negative regulation of transport"
##                     "detection of stimulus"
##                     "serotonin uptake"
##                     "cellular oligosaccharide catabolic process"
##                     "epiblast cell-extraembryonic ectoderm cell signaling involved in anterior/posteri
##                     "calcium activated phosphatidylcholine scrambling"
##                     "calcium activated galactosylceramide scrambling"
##                     "chemorepulsion of axon"
##                     "metanephric thick ascending limb development"
##                     "transforming growth factor beta receptor signaling pathway involved in primitive s
##                     "regulation of thalamus size"
##                     "regulation of microtubule nucleation by Ran protein signal transduction"
##                     "positive regulation of histone H3-K9 dimethylation"
##                     "regulation of synaptic plasticity by receptor localization to synapse"
##                     "positive regulation of lateral motor column neuron migration"
##                     "regulation of protein localization to cilium"
##                     "positive regulation of aspartate secretion"
##                     "regulation of dense core granule exocytosis"
##                     "pyrimidine nucleotide import into mitochondrion"
##                     "regulation of anoikis"
##                     "negative regulation of signaling receptor activity"
##                     "positive regulation of transcription from RNA polymerase II promoter in response t
##                     "noradrenergic neuron development"
##                     "octopamine biosynthetic process"
##                     "glucose-6-phosphate transport"
##                     "regulation of lateral pseudopodium assembly"
##                     "negative regulation of cellular metabolic process"
##                     "T cell secretory granule organization"
##                     "maintenance of protease location in mast cell secretory granule"
##                     "maintenance of granzyme B location in T cell secretory granule"
##                     "sequestering of extracellular ligand from receptor"
##                     "transforming growth factor beta activation"
##                     "indolalkylamine biosynthetic process"
##                     "negative regulation of muscle organ development"
##                     "inositol phosphorylation"
##                     "regulation of transcription from RNA polymerase II promoter involved in kidney dev
##                     "seminal vesicle morphogenesis"
##                     "neutrophil mediated killing of bacterium"
##                     "vesicle-mediated cholesterol transport"
##                     "negative regulation of establishment of blood-brain barrier"
##                     "L-arginine import across plasma membrane"
##                     "vascular endothelial cell response to fluid shear stress"
##                     "protein localization to axon"
##                     "regulation of phospholipase C activity"
##                     "positive regulation of mesenchymal stem cell proliferation"
##                     "NLRP1 inflammasome complex assembly"
##                     "regulation of adhesion of symbiont to host epithelial cell"
##                     "protein localization to nucleoplasm"
##                     "transcytosis"
```

```
##                      "very long-chain fatty acid biosynthetic process"
##                      "negative regulation of oxidative stress-induced neuron intrinsic apoptotic signali
##                      "chromatin-mediated maintenance of transcription"
##                      "cellular response to ethanol"
##                      "regulation of mRNA export from nucleus"
##                      "cell differentiation involved in embryonic placenta development"
##                      "natural killer cell proliferation"
##                      "microglial cell activation involved in immune response"
##                      "negative regulation of inositol phosphate biosynthetic process"
##                      "positive regulation of inositol-polyphosphate 5-phosphatase activity"
##                      "negative regulation of cerebellar granule cell precursor proliferation"
##                      "phospholipase C-inhibiting G protein-coupled receptor signaling pathway"
##                      "positive regulation of transforming growth factor beta1 production"
##                      "plasma lipoprotein particle assembly"
##                      "exocrine system development"
##                      "protein alpha-1,2-demannosylation"
##                      "T cell selection"
##                      "regulation of retinal cell programmed cell death"
##                      "thermoception"
##                      "regulation of cell diameter"
##                      "protein modification by small protein removal"
##                      "protein localization to ciliary membrane"
##                      "ferrous iron transmembrane transport"
##                      "mitotic sister chromatid biorientation"
##                      "aflatoxin B1 metabolic process"
##                      "macrophage activation involved in immune response"
##                      "lymphangiogenesis"
##                      "cellular response to sorbitol"
##                      "regulation of postsynaptic specialization assembly"
##                      "interleukin-18 production"
##                      "NLRP3 inflammasome complex assembly"
##                      "interleukin-1 secretion"
##                      "detection of hormone stimulus"
##                      "positive regulation of histone H3-K27 methylation"
##                      "regulation of lipoprotein lipase activity"
##                      "division septum assembly"
##                      "positive regulation of immune response to tumor cell"
##                      "phospholipid transfer to membrane"
##                      "zygotic determination of anterior/posterior axis, embryo"
##                      "zygote asymmetric cell division"
##                      "C-terminal protein-tyrosinylation"
##                      "UDP-N-acetylgalactosamine metabolic process"
##                      "vestibulocochlear nerve development"
##                      "lateral geniculate nucleus development"
##                      "chondroitin sulfate metabolic process"
##                      "regulation of circadian sleep/wake cycle, REM sleep"
##                      "NAD transport"
##                      "regulation of killing of cells of other organism"
##                      "positive regulation of sequestering of zinc ion"
##                      "endoplasmic reticulum polarization"
##                      "cerebellum vasculature development"
##                      "actin filament bundle retrograde transport"
##                      "positive regulation of lymphocyte apoptotic process"
##                      "AV node cell-bundle of His cell adhesion involved in cell communication"
```

```
##                     "cellular ammonia homeostasis"
##                     "cellular creatinine homeostasis"
##                     "cellular urea homeostasis"
##                     "sperm motility"
##                     "negative regulation of calcium ion binding"
##                     "regulation of calcium-transporting ATPase activity"
##                     "tarsal gland development"
##                     "uterine gland development"
##                     "regulation of intraciliary retrograde transport"
##                     "mitochondrion-endoplasmic reticulum membrane tethering"
##                     "positive regulation of protein localization to cell surface"
##                     "positive regulation of isotype switching to IgG isotypes"
##                     "toll-like receptor 2 signaling pathway"
##                     "activation of phospholipase A2 activity by calcium-mediated signaling"
##                     "branching involved in ureteric bud morphogenesis"
##                     "pressure natriuresis"
##                     "endocardium development"
##                     "positive regulation of cell fate commitment"
##                     "substance P catabolic process"
##                     "calcitonin catabolic process"
##                     "detection of wounding"
##                     "protein C-linked glycosylation via 2'-alpha-mannosyl-L-tryptophan"
##                     "spinal cord anterior/posterior patterning"
##                     "pyramidal neuron differentiation"
##                     "endothelin maturation"
##                     "thermosensory behavior"
##                     "negative regulation of ectodermal cell fate specification"
##                     "positive regulation of growth of symbiont in host"
##                     "cell wall disruption in other organism"
##                     "stromal-epithelial cell signaling involved in prostate gland development"
##                     "regulation of peroxisome size"
##                     "lateral mesodermal cell differentiation"
##                     "embryonic ectodermal digestive tract morphogenesis"
##                     "negative regulation of axon extension involved in regeneration"
##                     "leukocyte adhesive activation"
##                     "right lung morphogenesis"
##                     "metanephric nephron development"
##                     "convergent extension involved in somitogenesis"
##                     "regulation of plasma membrane sterol distribution"
##                     "protein localization to cell leading edge"
##                     "organelle disassembly"
##                     "cellular response to bile acid"
##                     "positive regulation of type B pancreatic cell proliferation"
##                     "negative regulation of Wnt signaling pathway involved in dorsal/ventral axis spec:
##                     "negative regulation of canonical Wnt signaling pathway involved in controlling ty:
##                     "regulation of Rho-dependent protein serine/threonine kinase activity"
##                     "negative regulation of synaptic plasticity"
##                     "DNA-templated transcription, initiation"
##                     "negative regulation of Arp2/3 complex-mediated actin nucleation"
##                     "brain-derived neurotrophic factor receptor signaling pathway"
##                     "regulation of translation at postsynapse, modulating synaptic transmission"
##                     "regulation of dopaminergic neuron differentiation"
##                     "muscle system process"
##                     "guanine catabolic process"
```

```
##                     "dCTP catabolic process"
##                     "dopamine biosynthetic process from tyrosine"
##                     "eye pigment granule organization"
##                     "glycoside metabolic process"
##                     "arginine deiminase pathway"
##                     "iron ion transmembrane transport"
##                     "N-glycan fucosylation"
##                     "medium-chain fatty-acyl-CoA catabolic process"
##                     "long-chain fatty-acyl-CoA catabolic process"
##                     "terpene metabolic process"
##                     "taurine biosynthetic process"
##                     "receptor metabolic process"
##                     "negative regulation of ion transport"
##                     "negative regulation of CD4 biosynthetic process"
##                     "dTTP catabolic process"
##                     "GDP-L-fucose metabolic process"
##                     "regulation of actin nucleation"
##                     "Bergmann glial cell differentiation"
##                     "retinal bipolar neuron differentiation"
##                     "closure of optic fissure"
##                     "cellular response to mercaptoethanol"
##                     "regulation of recycling endosome localization within postsynapse"
##                     "presynapse to nucleus signaling pathway"
##                     "negative regulation of response to oxidative stress"
##                     "positive regulation of potassium ion export across plasma membrane"
##                     "negative regulation of collecting lymphatic vessel constriction"
##                     "presynaptic active zone organization"
##                     "regulation of Rho guanyl-nucleotide exchange factor activity"
##                     "regulation of organelle assembly"
##                     "chorionic trophoblast cell differentiation"
##                     "potassium ion import"
##                     "somite rostral/caudal axis specification"
##                     "morphogenesis of an epithelial fold"
##                     "embryonic heart tube anterior/posterior pattern specification"
##                     "positive regulation of mitotic cell cycle spindle assembly checkpoint"
##                     "protein unfolding"
##                     "negative regulation of ERBB signaling pathway"
##                     "phagolysosome assembly"
##                     "sphinganine-1-phosphate metabolic process"
##                     "galactosylceramide catabolic process"
##                     "negative regulation of cell fate commitment"
##                     "rhombomere 5 development"
##                     "rhombomere 6 development"
##                     "embryonic olfactory bulb interneuron precursor migration"
##                     "pseudopodium organization"
##                     "positive regulation of glutamate-cysteine ligase activity"
##                     "hepatic stellate cell activation"
##                     "negative regulation of viral-induced cytoplasmic pattern recognition receptor sig
##                     "dicarboxylic acid catabolic process"
##                     "lipid digestion"
##                     "negative regulation of short-term neuronal synaptic plasticity"
##                     "vesicle fusion with vesicle"
##                     "secretory granule maturation"
##                     "leukocyte aggregation"
```

```
##                      "epithelial cell fate commitment"
##                      "protein insertion into plasma membrane"
##                      "positive regulation of calcium:sodium antiporter activity"
##                      "Golgi apparatus mannose trimming"
##                      "negative regulation of retrograde trans-synaptic signaling by neuropeptide"
##                      "negative regulation of actin filament binding"
##                      "positive regulation of protein export from nucleus"
##                      "positive regulation of protein localization to nucleolus"
##                      "sensory organ development"
##                      "prenylated protein catabolic process"
##                      "regulation of steroid biosynthetic process"
##                      "apoptotic process involved in development"
##                      "regulation of cation channel activity"
##                      "ganglioside biosynthetic process"
##                      "NK T cell proliferation"
##                      "biosynthetic process of antibacterial peptides active against Gram-negative bacter
##                      "regulation of macrophage derived foam cell differentiation"
##                      "plasma membrane copper ion transport"
##                      "mercury ion transport"
##                      "bilirubin transport"
##                      "prostaglandin transport"
##                      "O-glycan processing, core 3"
##                      "peptidyl-lysine N6-acetylation"
##                      "positive regulation of DNA endoreduplication"
##                      "cuticle development"
##                      "epinephrine metabolic process"
##                      "positive regulation of odontogenesis of dentin-containing tooth"
##                      "canonical Wnt signaling pathway involved in positive regulation of endothelial cel
##                      "canonical Wnt signaling pathway involved in positive regulation of cell-cell adhes
##                      "canonical Wnt signaling pathway involved in positive regulation of wound healing"
##                      "elastin biosynthetic process"
##                      "respiratory system development"
##                      "mammary gland fat development"
##                      "neutrophil mediated killing of fungus"
##                      "cellular response to radiation"
##                      "B cell adhesion"
##                      "cation transmembrane transport"
##                      "regulation of bundle of His cell action potential"
##                      "palmitic acid biosynthetic process"
##                      "benzylpenicillin metabolic process"
##                      "positive regulation of macrophage colony-stimulating factor signaling pathway"
##                      "positive regulation of response to wounding"
##                      "response to dehydroepiandrosterone"
##                      "response to 11-deoxycorticosterone"
##                      "regulation of cytochrome-c oxidase activity"
##                      "negative regulation of iron ion transmembrane transport"
##                      "mitotic DNA integrity checkpoint"
##                      "regulation of progesterone biosynthetic process"
##                      "ceramide transport"
##                      "protein ufmylation"
##                      "regulation of adaptive immune response"
##                      "negative regulation of proteolysis"
##                      "protein localization to nucleolus"
##                      "cardiac muscle cell contraction"
```

```
##                     "positive regulation of oxygen metabolic process"
##                     "sucrose metabolic process"
##                     "regulation of ketone biosynthetic process"
##                     "positive regulation of macrophage fusion"
##                     "protein demalonylation"
##                     "peptidyl-lysine demalonylation"
##                     "protein desuccinylation"
##                     "peptidyl-lysine desuccinylation"
##                     "serotonin biosynthetic process"
##                     "vacuolar sequestering"
##                     "ITP metabolic process"
##                     "UTP metabolic process"
##                     "deoxyribonucleoside catabolic process"
##                     "protein de-ADP-ribosylation"
##                     "negative regulation of growth hormone receptor signaling pathway"
##                     "protein deglutarylation"
##                     "peptidyl-lysine deglutarylation"
##                     "mitochondrial threonyl-tRNA aminoacylation"
##                     "renal water absorption"
##                     "SA node cell to atrial cardiac muscle cell communication by electrical coupling"
##                     "cardiac muscle cell-cardiac muscle cell adhesion"
##                     "AV node cell to bundle of His cell communication by electrical coupling"
##                     "negative regulation of oocyte maturation"
##                     "regulation of ephrin receptor signaling pathway"
##                     "negative regulation of microglial cell migration"
##                     "positive regulation of microglial cell mediated cytotoxicity"
##                     "response to iron ion starvation"
##                     "positive regulation of memory T cell activation"
##                     "monocarboxylic acid transport"
##                     "membrane protein intracellular domain proteolysis"
##                     "cellular response to hydrogen peroxide"
##                     "regulation of gluconeogenesis by regulation of transcription from RNA polymerase
##                     "peptidyl-cysteine S-nitrosylation"
##                     "regulation of viral process"
##                     "regulation of protein serine/threonine kinase activity"
##                     "regulation of protein targeting to vacuolar membrane"
##                     "negative regulation of plasmacytoid dendritic cell cytokine production"
##                     "chitin metabolic process"
##                     "cell wall chitin metabolic process"
##                     "catabolic process"
##                     "positive regulation of cell development"
##                     "rhombomere 3 development"
##                     "rhombomere 4 development"
##                     "corticospinal neuron axon guidance"
##                     "peptide modification"
##                     "inositol trisphosphate metabolic process"
##                     "protein N-linked glycosylation via arginine"
##                     "neural nucleus development"
##                     "dermatan sulfate proteoglycan biosynthetic process, polysaccharide chain biosynth
##                     "negative regulation of lipoprotein lipid oxidation"
##                     "seminal vesicle development"
##                     "cell adhesion involved in heart morphogenesis"
##                     "negative regulation of stress granule assembly"
##                     "positive regulation of phospholipid biosynthetic process"
```

```
##                     "epithelial tube formation"
##                     "negative regulation of cellular response to hypoxia"
##                     "positive regulation of AMPA glutamate receptor clustering"
##                     "positive regulation of aldosterone secretion"
##                     "regulation of phosphatidylcholine biosynthetic process"
##                     "positive regulation of viral genome replication"
##                     "riboflavin metabolic process"
##                     "suppression by virus of host apoptotic process"
##                     "establishment of planar polarity of follicular epithelium"
##                     "mitochondrial fragmentation involved in apoptotic process"
##                     "regulation of chromosome separation"
##                     "T-helper 1 cell differentiation"
##                     "ammonia assimilation cycle"
##                     "polysaccharide catabolic process"
##                     "histone displacement"
##                     "activation of blood coagulation via clotting cascade"
##                     "axis elongation"
##                     "quaternary ammonium group transport"
##                     "peptidyl-pyrromethane cofactor linkage"
##                     "dendrite regeneration"
##                     "positive regulation of brain-derived neurotrophic factor receptor signaling pathw
##                     "otolith morphogenesis"
##                     "macromolecule localization"
##                     "histone H3-R26 citrullination"
##                     "amide transport"
##                     "glycosphingolipid catabolic process"
##                     "peptide antigen stabilization"
##                     "positive regulation of transcription involved in meiotic cell cycle"
##                     "type B pancreatic cell maturation"
##                     "trans-synaptic signaling by trans-synaptic complex"
##                     "positive regulation of protein localization to endosome"
##                     "dense core granule exocytosis"
##                     "cellular response to aluminum ion"
##                     "negative regulation of lysosome organization"
##                     "glutamine biosynthetic process"
##                     "cellular response to gamma radiation"
##                     "positive regulation of prolactin secretion"
##                     "negative regulation of mitotic sister chromatid separation"
##                     "response to UV-B"
##                     "positive regulation of interleukin-6 biosynthetic process"
##                     "regulation of triglyceride metabolic process"
##                     "positive regulation of glycolytic process"
##                     "primitive hemopoiesis"
##                     "negative regulation of peptide secretion"
##                     "macrophage migration inhibitory factor signaling pathway"
##                     "S-adenosyl-L-methionine transport"
##                     "positive regulation of melanocyte differentiation"
##                     "glycolipid transport"
##                     "sensory perception of sour taste"
##                     "transepithelial transport"
##                     "positive regulation of protein glycosylation in Golgi"
##                     "negative regulation of serine-type endopeptidase activity"
##                     "S-adenosyl-L-methionine transmembrane transport"
##                     "positive regulation of CoA-transferase activity"
```

```
##                     "regulation of DNA biosynthetic process"
##                     NA
##                     "protein localization to vacuolar membrane"
##                     "positive regulation of monooxygenase activity"
##                     "neuron projection guidance"
##                     "inter-male aggressive behavior"
##                     "regulation of tolerance induction dependent upon immune response"
##                     "positive regulation of chronic inflammatory response"
##                     "proximal/distal axis specification"
##                     "neuroblast differentiation"
##                     "negative regulation of muscle hypertrophy"
##                     "principal sensory nucleus of trigeminal nerve development"
##                     "neurohypophysis development"
##                     "negative regulation of interleukin-3 production"
##                     "kynurenic acid biosynthetic process"
##                     "L-fucose catabolic process"
##                     "epinephrine biosynthetic process"
##                     "macromolecule metabolic process"
##                     "relaxation of smooth muscle"
##                     "positive regulation of fatty acid biosynthetic process"
##                     "detection of mechanical stimulus involved in sensory perception of touch"
##                     "cadmium ion homeostasis"
##                     "regulation of protein glycosylation"
##                     "lung ciliated cell differentiation"
##                     "glucagon secretion"
##                     "cellular response to lead ion"
##                     "cellular response to corticosteroid stimulus"
##                     "negative regulation of granulocyte colony-stimulating factor production"
##                     "positive regulation of lysosomal membrane permeability"
##                     "histone H3-K4 monomethylation"
##                     "dendrite arborization"
##                     "negative regulation of retinoic acid biosynthetic process"
##                     "regulation of cell cycle phase transition"
##                     "regulation of receptor localization to synapse"
##                     "L-ornithine transmembrane transport"
##                     "positive regulation of metaphase/anaphase transition of meiosis I"
##                     "regulation of calcium ion export across plasma membrane"
##                     "regulation of testosterone biosynthetic process"
##                     "regulation of macrophage migration inhibitory factor signaling pathway"
##                     "negative regulation of epithelial cell proliferation involved in lung morphogenes:
##                     "spliceosome conformational change to release U4 (or U4atac) and U1 (or U11)"
##                     "10-formyltetrahydrofolate biosynthetic process"
##                     "regulation of mRNA stability"
##                     "retinal cell programmed cell death"
##                     "negative regulation of calcium ion transmembrane transporter activity"
##                     "positive regulation of shelterin complex assembly"
##                     "negative regulation of establishment of protein localization to telomere"
##                     "negative regulation of establishment of RNA localization to telomere"
##                     "negative regulation of establishment of protein-containing complex localization to
##                     "ectodermal cell differentiation"
##                     "response to fluid shear stress"
##                     "regulation of type I interferon-mediated signaling pathway"
##                     "production of miRNAs involved in gene silencing by miRNA"
##                     "positive regulation of synaptic transmission"
```

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```
##                      "leukocyte homeostasis"
##                      "protein amidation"
##                      "protein deamination"
##                      "neural plate anterior/posterior regionalization"
##                      "interleukin-17 production"
##                      "fucosylation"
##                      "negative regulation of bone remodeling"
##                      "detection of chemical stimulus involved in sensory perception of pain"
##                      "positive regulation of ovulation"
##                      "mesenchymal-epithelial cell signaling involved in prostate gland development"
##                      "ubiquitin-dependent endocytosis"
##                      "protein catabolic process, modulating synaptic transmission"
##                      "negative regulation of cell adhesion involved in sprouting angiogenesis"
##                      "negative regulation of protein localization to cilium"
##                      "negative regulation of protein localization to ciliary membrane"
##                      "regulation of response to drug"
##                      "carnosine metabolic process"
##                      "DNA dealkylation involved in DNA repair"
##                      "carnitine metabolic process"
##                      "response to tumor necrosis factor"
##                      "negative regulation of macroautophagy"
##                      "response to interleukin-2"
##                      "response to interleukin-9"
##                      "positive regulation of GTPase activity"
##                      "central tolerance induction"
##                      "positive regulation of central B cell tolerance induction"
##                      "membrane lipid metabolic process"
##                      "cellular metal ion homeostasis"
##                      "spinal cord oligodendrocyte cell fate specification"
##                      "negative regulation of catecholamine secretion"
##                      "copper ion transmembrane transport"
##                      "FasL biosynthetic process"
##                      "post-embryonic retina morphogenesis in camera-type eye"
##                      "negative regulation of SMAD protein signal transduction"
##                      "protein initiator methionine removal"
##                      "glomerular parietal epithelial cell development"
##                      "positive regulation of lung ciliated cell differentiation"
##                      "positive regulation of protein geranylgeranylation"
##                      "regulation of synaptic vesicle clustering"
##                      "response to xenobiotic stimulus"
##                      "quinolinate biosynthetic process"
##                      "anthranilate metabolic process"
##                      "forebrain regionalization"
##                      "SMAD protein signal transduction"
##                      "regulation of cardiac muscle cell action potential"
##                      "nucleotide-excision repair, DNA damage removal"
##                      "positive regulation of antibacterial peptide production"
##                      "DNA 3' dephosphorylation involved in DNA repair"
##                      "polynucleotide 3' dephosphorylation"
##                      "positive regulation of defense response to bacterium"
##                      "negative regulation of protein export from nucleus"
##                      "hepatocyte cell migration"
##                      "thiamine metabolic process"
##                      "vacuole organization"
```

```
##                     "cellular response to phosphate starvation"
##                     "phthalate metabolic process"
##                     "rRNA 3'-end processing"
##                     "catecholamine catabolic process"
##                     "otic placode formation"
##                     "molybdopterin cofactor metabolic process"
##                     "norepinephrine secretion"
##                     "positive regulation of homocysteine metabolic process"
##                     "Spemann organizer formation"
##                     "branching involved in pancreas morphogenesis"
##                     "positive regulation of macrophage inflammatory protein 1 alpha production"
##                     "acinar cell differentiation"
##                     "blood vessel endothelial cell delamination"
##                     "positive regulation of presynaptic membrane organization"
##                     "positive regulation of cell cycle checkpoint"
##                     "protein localization to Golgi membrane"
##                     "negative regulation of brown fat cell differentiation"
##                     "signal transduction involved in regulation of aerobic respiration"
##                     "positive regulation of forebrain neuron differentiation"
##                     "synapse pruning"
##                     "negative regulation of striated muscle contraction"
##                     "negative regulation of calcium ion transmembrane transport"
##                     "negative regulation of calcium:sodium antiporter activity"
##                     "lipid hydroxylation"
##                     "copper ion export"
##                     "negative regulation of cell proliferation involved in contact inhibition"
##                     "positive regulation of type IV hypersensitivity"
##                     "positive regulation of abscisic acid-activated signaling pathway"
##                     "cell-cell recognition"
##                     "muscle cell apoptotic process"
##                     "regulation of skeletal muscle contraction by calcium ion signaling"
##                     "regulation of excitatory postsynaptic membrane potential involved in skeletal mus
##                     "UDP-glucose transmembrane transport"
##                     "plasma membrane long-chain fatty acid transport"
##                     "modulation by virus of host transcription"
##                     "septin cytoskeleton organization"
##                     "response to luteinizing hormone"
##                     "neurotrophin signaling pathway"
##                     "positive regulation of axon extension involved in regeneration"
##                     "epicardium-derived cardiac fibroblast cell development"
##                     "UDP-galactose transmembrane transport"
##                     "vesicle-mediated intercellular transport"
##                     "clathrin-dependent synaptic vesicle endocytosis"
##                     "positive regulation of antral ovarian follicle growth"
##                     "regulation of thyroid-stimulating hormone secretion"
##                     "atrial cardiac muscle cell development"
##                     "nuclear-transcribed mRNA catabolic process"
##                     "DNA damage induced protein phosphorylation"
##                     "positive regulation of gamma-delta T cell differentiation"
##                     "digestion"
##                     "cellular lipid catabolic process"
##                     "regulation of mitochondrial membrane permeability"
##                     "cholesterol biosynthetic process via desmosterol"
##                     "cholesterol biosynthetic process via lathosterol"
```

```
##                      "endonucleolytic cleavage to generate mature 5'-end of SSU-rRNA from (SSU-rRNA, 5.8
##                      "diacylglycerol metabolic process"
##                      "negative regulation of branching involved in lung morphogenesis"
##                      "cadmium ion transmembrane transport"
##                      "positive regulation of leukocyte adhesion to arterial endothelial cell"
##                      "embryonic heart tube formation"
##                      "acetate metabolic process"
##                      "termination of mitochondrial transcription"
##                      "uroporphyrinogen III biosynthetic process"
##                      "negative regulation of cell development"
##                      "peptidyl-arginine ADP-ribosylation"
##                      "defecation"
##                      "wybutosine biosynthetic process"
##                      "negative regulation of syncytium formation by plasma membrane fusion"
##                      "egg coat formation"
##                      "morphogenesis of a branching epithelium"
##                      "ureter morphogenesis"
##                      "trans-synaptic signaling, modulating synaptic transmission"
##                      "regulation of actin filament organization"
##                      "regulation of positive thymic T cell selection"
##                      "positive regulation of skeletal muscle fiber differentiation"
##                      "positive regulation of 3'-UTR-mediated mRNA stabilization"
##                      "positive regulation of acrosomal vesicle exocytosis"
##                      "cilium-dependent cell motility"
##                      "regulation of tolerance induction"
##                      "apoptotic process"
##                      "CAAX-box protein processing"
##                      "postganglionic parasympathetic fiber development"
##                      "positive regulation of immune response"
##                      "folic acid-containing compound metabolic process"
##                      "interleukin-1-mediated signaling pathway"
##                      "early endosome to recycling endosome transport"
##                      "L-leucine import across plasma membrane"
##                      "regulation of asymmetric cell division"
##                      "intracellular sterol transport"
##                      "regulation of natural killer cell activation"
##                      "DNA damage response, signal transduction resulting in transcription"
##                      "DNA demethylation of male pronucleus"
##                      "positive regulation of Wnt signaling pathway, calcium modulating pathway"
##                      "short-chain fatty acid metabolic process"
##                      "3'-phosphoadenosine 5'-phosphosulfate transport"
##                      "coagulation"
##                      "synapse assembly involved in innervation"
##                      "regulation of lipoprotein lipid oxidation"
##                      "regulation of branching involved in salivary gland morphogenesis by extracellular
##                      "regulation of branching involved in salivary gland morphogenesis"
##                      "cell migration involved in coronary vasculogenesis"
##                      "T cell apoptotic process"
##                      "platelet alpha granule organization"
##                      "cellular response to L-ascorbic acid"
##                      "metanephric mesenchymal cell differentiation"
##                      "positive regulation of heart induction by negative regulation of canonical Wnt sig
##                      "negative regulation of canonical Wnt signaling pathway involved in cardiac muscle
##                      "regulation of nucleic acid-templated transcription"
```

```
##                         "positive regulation of fat cell apoptotic process"
##                         "negative regulation of Wnt-Frizzled-LRP5/6 complex assembly"
##                         "positive regulation of midbrain dopaminergic neuron differentiation"
##                         "negative regulation of glutamine transport"
##                         "negative regulation of smoothened signaling pathway involved in dorsal/ventral neu
##                         "cellular response to amyloid-beta"
##                         "positive regulation of response to oxidative stress"
##                         "guanine salvage"
##                         "GMP catabolic process"
##                         "establishment of mitochondrion localization"
##                         "regulation of protein kinase activity"
##                         "regulation of exocyst assembly"
##                         "leukotriene production involved in inflammatory response"
##                         "pancreatic D cell differentiation"
##                         "regulation of proton transport"
##                         "cell migration in hindbrain"
##                         "actin filament-based process"
##                         "negative regulation of odontogenesis of dentin-containing tooth"
##                         "negative regulation of skeletal muscle tissue growth"
##                         "generation of neurons"
##                         "regulation of exocyst localization"
##                         "detection of hypoxia"
##                         "pancreatic epsilon cell differentiation"
##                         "regulation of membrane lipid distribution"
##                         "neurotransmitter reuptake"
##                         "positive regulation of smoothened signaling pathway involved in dorsal/ventral neu
##                         "positive regulation of RNA polymerase II regulatory region sequence-specific DNA b
##                         "positive regulation of transcription from RNA polymerase II promoter involved in r
##                         "positive regulation of semaphorin-plexin signaling pathway involved in outflow tra
##                         "negative regulation of interleukin-12 secretion"
##                         "response to hypoxia"
##                         "positive regulation of macrophage chemotaxis"
##                         "defense response to nematode"
##                         "serine family amino acid biosynthetic process"
##                         "insulin secretion involved in cellular response to glucose stimulus"
##                         "polynucleotide 5' dephosphorylation"
##                         "intrinsic apoptotic signaling pathway in response to oxidative stress"
##                         "histidine biosynthetic process"
##                         "threonine metabolic process"
##                         "gamma-aminobutyric acid metabolic process"
##                         "viral translational termination-reinitiation"
##                         "negative regulation of type IV hypersensitivity"
##                         "columnar/cuboidal epithelial cell development"
##                         "immune response-inhibiting signal transduction"
##                         "regulation of systemic arterial blood pressure by baroreceptor feedback"
##                         "regulation of mitotic cell cycle, embryonic"
##                         "glossopharyngeal nerve development"
##                         "vagus nerve development"
##                         "hypoglossal nerve morphogenesis"
##                         "regulation of cell projection organization"
##                         "GTP metabolic process"
##                         "positive regulation of neuron projection regeneration"
##                         "phytosphingosine biosynthetic process"
##                         "cell gliding"
```

```
##                     "T cell meandering migration"
##                     "mitotic nuclear division"
##                     "response to peptide"
##                     "regulation of tau-protein kinase activity"
##                     "prostaglandin catabolic process"
##                     "negative regulation of cardiac muscle cell myoblast differentiation"
##                     "regulation of non-canonical Wnt signaling pathway"
##                     "tRNA methylation"
##                     "testosterone biosynthetic process"
##                     "craniofacial suture morphogenesis"
##                     "negative regulation of autophagosome maturation"
##                     "methionine biosynthetic process"
##                     "negative regulation of mitochondrial depolarization"
##                     "cellular process"
##                     "glycosphingolipid biosynthetic process"
##                     "galactitol metabolic process"
##                     "regulation of interleukin-18 biosynthetic process"
##                     "negative regulation of Toll signaling pathway"
##                     "antigen processing and presentation of peptide antigen"
##                     "determination of dorsal identity"
##                     "lateral element assembly"
##                     "Spemann organizer formation at the anterior end of the primitive streak"
##                     "optic chiasma development"
##                     "glycolytic process from galactose"
##                     "endothelial cell-matrix adhesion"
##                     "ATP hydrolysis coupled ion transmembrane transport"
##                     "regulation of protein K63-linked ubiquitination"
##                     "positive regulation of platelet aggregation"
##                     "regulation of protein autoubiquitination"
##                     "sperm flagellum movement involved in flagellated sperm motility"
##                     "canonical Wnt signaling pathway involved in stem cell proliferation"
##                     "negative regulation of synapse maturation"
##                     "positive regulation of optic nerve formation"
##                     "regulation of motor neuron apoptotic process"
##                     "autophagosome membrane docking"
##                     "negative regulation of myelination"
##                     "immune system process"
##                     "blue light signaling pathway"
##                     "response to organophosphorus"
##                     "cobalamin metabolic process"
##                     "positive regulation of neurotrophin TRK receptor signaling pathway"
##                     "transcription by RNA polymerase I"
##                     "Toll signaling pathway"
##                     "regulation of hormone levels"
##                     "protein demethylation"
##                     "negative regulation of fibroblast migration"
##                     "protein import"
##                     "B cell activation involved in immune response"
##                     "L-cystine transport"
##                     "protein polyglycylation"
##                     "protein citrullination"
##                     "interferon-gamma biosynthetic process"
##                     "regulation of MHC class I biosynthetic process"
##                     "deoxyribose phosphate catabolic process"
```

```
##                      "pigment granule maturation"
##                      "negative regulation of cell activation"
##                      "response to interleukin-11"
##                      "cellular response to pheromone"
##                      "negative regulation of collagen fibril organization"
##                      "regulation of guanyl-nucleotide exchange factor activity"
##                      "negative regulation of macrophage migration"
##                      "negative regulation of phosphatidylcholine biosynthetic process"
##                      "positive regulation of lipopolysaccharide-mediated signaling pathway"
##                      "positive regulation of DNA biosynthetic process"
##                      "adenosine metabolic process"
##                      "lymphocyte activation"
##                      "negative regulation of UDP-glucose catabolic process"
##                      "positive regulation of adenylate cyclase-activating adrenergic receptor signaling
##                      "negative regulation of glycogen synthase activity, transferring glucose-1-phospha
##                      "V(D)J recombination"
##                      "glycoprotein transport"
##                      "T-helper cell lineage commitment"
##                      "negative regulation of tolerance induction"
##                      "negative regulation of T cell mediated immunity"
##                      "response to carbon dioxide"
##                      "hexose biosynthetic process"
##                      "female sex determination"
##                      "immature T cell proliferation in thymus"
##                      "geranylgeranyl diphosphate biosynthetic process"
##                      "response to genistein"
##                      "tube morphogenesis"
##                      "helper T cell extravasation"
##                      "non-canonical Wnt signaling pathway via MAPK cascade"
##                      "positive regulation of lymphotoxin A biosynthetic process"
##                      "negative regulation of interleukin-4 biosynthetic process"
##                      "negative regulation of follicle-stimulating hormone secretion"
##                      "vesicle targeting, trans-Golgi to endosome"
##                      "eye morphogenesis"
##                      "phytoalexin metabolic process"
##                      "negative regulation of mast cell differentiation"
##                      "negative regulation of testicular blood vessel morphogenesis"
##                      "renal vesicle formation"
##                      "metanephric nephron morphogenesis"
##                      "granulocyte migration"
##                      "response to Thyroid stimulating hormone"
##                      "folate import into mitochondrion"
##                      "response to astaxanthin"
##                      "response to thyrotropin-releasing hormone"
##                      "dorsal root ganglion development"
##                      "negative regulation of male gonad development"
##                      "positive regulation of cortisol biosynthetic process"
##                      "actomyosin structure organization"
##                      "cell cycle G1/S phase transition"
##                      "regulation of immune system process"
##                      "nitric oxide metabolic process"
##                      "histone acetylation"
##                      "regulation of cellular component size"
##                      "negative regulation of synaptic vesicle clustering"
```

```
##                     "attachment of GPI anchor to protein"
##                     "signal transduction by trans-phosphorylation"
##                     "positive regulation of dopamine metabolic process"
##                     "regulation of blood pressure"
##                     "cardiac muscle cell proliferation"
##                     "inactivation of MAPK activity"
##                     "chitin catabolic process"
##                     "detection of peptidoglycan"
##                     "basement membrane disassembly"
##                     "regulation of timing of catagen"
##                     "actin-mediated cell contraction"
##                     "detection of lipoteichoic acid"
##                     "regulation of apoptotic process involved in outflow tract morphogenesis"
##                     "positive regulation of C-C chemokine receptor CCR7 signaling pathway"
##                     "substantia propria of cornea development"
##                     "membrane protein proteolysis involved in retrograde protein transport, ER to cyto
##                     "response to 2,3,7,8-tetrachlorodibenzodioxine"
##                     "protein localization to site of double-strand break"
##                     "positive regulation of CD40 signaling pathway"
##                     "negative regulation of interleukin-10 secretion"
##                     "negative regulation of telomere maintenance"
##                     "negative regulation of cardiac muscle cell proliferation"
##                     "apoptotic process involved in heart morphogenesis"
##                     "histone H4-K20 demethylation"
##                     "negative regulation of growth rate"
##                     "eye pigment biosynthetic process"
##                     "transdifferentiation"
##                     "phylloquinone catabolic process"
##                     "positive regulation of fractalkine biosynthetic process"
##                     "membrane repolarization during action potential"
##                     "atrioventricular bundle cell differentiation"
##                     "gonadal mesoderm development"
##                     "glycolate metabolic process"
##                     "cardioblast differentiation"
##                     "vitamin E biosynthetic process"
##                     "muscle hypertrophy"
##                     "adaptation of rhodopsin mediated signaling"
##                     "establishment or maintenance of polarity of embryonic epithelium"
##                     "NAD catabolic process"
##                     "caudate nucleus development"
##                     "putamen development"
##                     "fast-twitch skeletal muscle fiber contraction"
##                     "regulation of cell projection size"
##                     "regulation of integrin activation"
##                     "multivesicular body organization"
##                     "cytotoxic T cell degranulation"
##                     "cellular metabolic process"
##                     "follicle-stimulating hormone secretion"
##                     "negative regulation of oocyte development"
##                     "lobar bronchus development"
##                     "positive regulation of fructose 1,6-bisphosphate 1-phosphatase activity"
##                     "positive regulation of fructose 1,6-bisphosphate metabolic process"
##                     "renal inner medulla development"
##                     "renal outer medulla development"
```

```
##                     "outer medullary collecting duct development"
##                     "complement-dependent cytotoxicity"
##                     "negative regulation of synaptic vesicle endocytosis"
##                     "positive regulation of constitutive secretory pathway"
##                     "positive regulation of trophectodermal cell proliferation"
##                     "positive regulation of protein import"
##                     "negative regulation of membrane invagination"
##                     "regulation of phagosome maturation"
##                     "positive regulation of protein localization to phagocytic vesicle"
##                     "negative regulation of clathrin-coated pit assembly"
##                     "dense core granule maturation"
##                     "positive regulation of tumor necrosis factor (ligand) superfamily member 11 produc
##                     "anterograde axonal transport"
##                     "phospholipid translocation"
##                     "ubiquinone metabolic process"
##                     "pyridoxine biosynthetic process"
##                     "regulation of oligodendrocyte differentiation"
##                     "attachment of spindle microtubules to kinetochore involved in homologous chromoso
##                     "nitrate catabolic process"
##                     "nitric oxide catabolic process"
##                     "positive regulation of steroid hormone biosynthetic process"
##                     "cellular organofluorine metabolic process"
##                     "negative regulation of leukocyte cell-cell adhesion"
##                     "regulation of actin filament depolymerization"
##                     "regulation of T cell tolerance induction"
##                     "immune response-activating signal transduction"
##                     "neural crest cell fate commitment"
##                     "T-helper 1 cell cytokine production"
##                     "renal sodium excretion"
##                     "renal potassium excretion"
##                     "transforming growth factor-beta secretion"
##                     "tetrahydrofolylpolyglutamate metabolic process"
##                     "cytoplasmic actin-based contraction involved in cell motility"
##                     "positive regulation of transcription from RNA polymerase II promoter in response
##                     "regulation of establishment of protein localization to chromosome"
##                     "nuclear retention of pre-mRNA at the site of transcription"
##                     "protein localization to non-motile cilium"
##                     "regulation of protein depolymerization"
##                     "positive regulation of male germ cell proliferation"
##                     "negative regulation of histone H3-K79 methylation"
##                     "mesoderm formation"
##                     "positive regulation of single stranded viral RNA replication via double stranded
##                     "negative regulation of DNA duplex unwinding"
##                     "endodermal cell fate commitment"
##                     "photoreceptor cell development"
##                     "aminophospholipid transport"
##                     "NADP catabolic process"
##                     "cobalt ion transport"
##                     "regulation of mesenchymal cell proliferation"
##                     "late endosome to vacuole transport via multivesicular body sorting pathway"
##                     "positive regulation of translation initiation in response to endoplasmic reticulu
##                     "regulation of endodermal cell fate specification"
##                     "asymmetric protein localization involved in cell fate determination"
##                     "chondroitin sulfate proteoglycan biosynthetic process, polysaccharide chain biosy
```

```
##                      "hepoxilin biosynthetic process"
##                      "synaptic transmission involved in micturition"
##                      "positive regulation of serine-type endopeptidase activity"
##                      "positive regulation of excitatory synapse assembly"
##                      "bone regeneration"
##                      "positive regulation of growth"
##                      "renal glucose absorption"
##                      "positive regulation of interleukin-1 alpha secretion"
##                      "negative regulation of activated T cell proliferation"
##                      "negative regulation of defense response to virus"
##                      "learning or memory"
##                      "thymidine metabolic process"
##                      "regulation of type 2 immune response"
##                      "negative regulation of natural killer cell mediated cytotoxicity directed against
##                      "negative regulation of chronic inflammatory response to antigenic stimulus"
##                      "xylulose catabolic process"
##                      "interneuron migration from the subpallium to the cortex"
##                      "positive regulation of leukotriene production involved in inflammatory response"
##                      "retrograde transport, plasma membrane to Golgi"
##                      "histone citrullination"
##                      "positive regulation of cytokine biosynthetic process"
##                      "primary follicle stage"
##                      "pigment granule transport"
##                      "monoacylglycerol catabolic process"
##                      "negative regulation of vascular wound healing"
##                      "histone H3-K36 trimethylation"
##                      "positive regulation of odontoblast differentiation"
##                      "negative regulation of cell proliferation involved in kidney development"
##                      "regulation of response to wounding"
##                      "negative regulation of connective tissue replacement involved in inflammatory res
##                      "negative regulation of advanced glycation end-product receptor activity"
##                      "regulation of protein localization to chromatin"
##                      "negative regulation of testosterone biosynthetic process"
##                      "regulation of kainate selective glutamate receptor activity"
##                      "regulation of CD4-positive, alpha-beta T cell activation"
##                      "positive regulation of renal water transport"
##                      "multicellular organismal response to stress"
##                      "response to morphine"
##                      "cell fate specification"
##                      "histone H4-K20 trimethylation"
##                      "negative regulation of mitochondrial DNA replication"
##                      "mammillary body development"
##                      "mammillothalamic axonal tract development"
##                      "mammary gland lobule development"
##                      "inferior colliculus development"
##                      "cell migration in diencephalon"
##                      "mesodermal-endodermal cell signaling"
##                      "chromosome breakage"
##                      "histone H2A-S139 phosphorylation"
##                      "negative regulation of T-helper 1 cell differentiation"
##                      "positive regulation of protein neddylation"
##                      "positive regulation of cellular response to X-ray"
##                      "endothelial to hematopoietic transition"
##                      "positive regulation of vesicle docking"
```

```
##                      "manchette assembly"
##                      "sphinganine-1-phosphate biosynthetic process"
##                      "gamma-aminobutyric acid transport"
##                      "siderophore transport"
##                      "brassinosteroid biosynthetic process"
##                      "protein-pyridoxal-5-phosphate linkage"
##                      "glycolipid translocation"
##                      "U6 snRNA 3'-end processing"
##                      "prolactin signaling pathway"
##                      "acrosomal vesicle exocytosis"
##                      "sinoatrial node cell development"
##                      "site-specific DNA replication termination at RTS1 barrier"
##                      "multinuclear osteoclast differentiation"
##                      "synaptic vesicle cycle"
##                      "negative regulation of nodal signaling pathway"
##                      "mitotic DNA replication termination"
##                      "positive regulation of ATP metabolic process"
##                      "positive regulation of phospholipid transport"
##                      "digestive tract morphogenesis"
##                      "positive regulation of chronic inflammatory response to antigenic stimulus"
##                      "negative regulation of muscle contraction"
##                      "mannose trimming involved in glycoprotein ERAD pathway"
##                      "eyelid development in camera-type eye"
##                      "body morphogenesis"
##                      "regulation of interleukin-6 production"
##                      "positive regulation of anterograde axonal transport of mitochondrion"
##                      "negative regulation of store-operated calcium channel activity"
##                      "regulation of myeloid leukocyte differentiation"
##                      "protein biotinylation"
##                      "virus maturation"
##                      "negative regulation of heat generation"
##                      "centromere complex assembly"
##                      "response to cortisone"
##                      "positive regulation of phospholipid catabolic process"
##                      "histone H3-K27 methylation"
##                      "histone biotinylation"
##                      "negative regulation of adenylate cyclase-activating adrenergic receptor signaling
##                      "copper ion import across plasma membrane"
##                      "positive regulation of neuromuscular synaptic transmission"
##                      "regulation of postsynaptic membrane organization"
##                      "establishment of protein localization to postsynaptic membrane"
##                      "positive regulation of voltage-gated potassium channel activity"
##                      "negative regulation of epithelial to mesenchymal transition involved in endocardi
##                      "macrophage migration"
##                      "positive regulation of myotome development"
##                      "negative regulation of lamellipodium morphogenesis"
##                      "spermidine acetylation"
##                      "preantral ovarian follicle growth"
##                      "negative regulation of membrane potential"
##                      "regulation of pronephros size"
##                      "thyroid hormone metabolic process"
##                      "synaptic vesicle membrane organization"
##                      "mitochondrial RNA processing"
##                      "S-adenosylmethioninamine biosynthetic process"
```

```
##                      "establishment or maintenance of apical/basal cell polarity"
##                      "RNA (guanine-N7)-methylation"
##                      "cytotoxic T cell differentiation"
##                      "mitochondrial tRNA wobble uridine modification"
##                      "positive regulation of voltage-gated sodium channel activity"
##                      "positive regulation of dipeptide transmembrane transport"
##                      "atrial cardiac muscle cell action potential"
##                      "RNA 5'-cap (guanine-N7)-methylation"
##                      "putrescine catabolic process"
##                      "regulation of development, heterochronic"
##                      "fatty acid alpha-oxidation"
##                      "cellular response to lipid"
##                      "intracellular transport of virus"
##                      "positive regulation of intrinsic apoptotic signaling pathway in response to osmot
##                      "male courtship behavior"
##                      "nucleotide-sugar metabolic process"
##                      "tonic smooth muscle contraction"
##                      "negative regulation of transmembrane transport"
##                      "base-excision repair, AP site formation via deaminated base removal"
##                      "negative regulation of detection of mechanical stimulus involved in sensory percep
##                      "mitochondrial transmembrane transport"
##                      "protein localization to cell cortex"
##                      "regulation of inclusion body assembly"
##                      "tRNA pseudouridine synthesis"
##                      "positive regulation of mononuclear cell proliferation"
##                      "ethylene metabolic process"
##                      "dibenzo-p-dioxin catabolic process"
##                      "posttranslational protein targeting to membrane, translocation"
##                      "PERK-mediated unfolded protein response"
##                      "positive regulation of glutamate secretion, neurotransmission"
##                      "positive regulation of heart rate"
##                      "response to fatty acid"
##                      "cell-cell adhesion via plasma-membrane adhesion molecules"
##                      "skeletal muscle atrophy"
##                      "meiotic telomere clustering"
##                      "cell morphogenesis involved in neuron differentiation"
##                      "MHC class II protein complex assembly"
##                      "pyrimidine deoxyribonucleotide salvage"
##                      "nucleotide-binding domain, leucine rich repeat containing receptor signaling pathw
##                      "slit diaphragm assembly"
##                      "regulation of natural killer cell mediated cytotoxicity"
##                      "CTP salvage"
##                      "mitochondrial magnesium ion transmembrane transport"
##                      "regulation of axon extension involved in axon guidance"
##                      "negative regulation of interleukin-1 secretion"
##                      "positive regulation of mesenchymal to epithelial transition involved in metanephro
##                      "regulation of skeletal muscle fiber differentiation"
##                      "neural crest cell migration involved in sympathetic nervous system development"
##                      "regulation of growth hormone activity"
##                      "regulation of oxygen metabolic process"
##                      "negative regulation of T cell migration"
##                      "hindbrain morphogenesis"
##                      "negative regulation of DNA ligase activity"
##                      "habenula development"
```

```
##                     "glycoprotein biosynthetic process"
##                     "ear development"
##                     "positive regulation of axon extension"
##                     "positive regulation of vitamin D biosynthetic process"
##                     "negative regulation of transcription initiation from RNA polymerase II promoter"
##                     "establishment or maintenance of cell polarity regulating cell shape"
##                     "regulation of telomere capping"
##                     "cellular response to L-glutamine"
##                     "animal organ regeneration"
##                     "negative regulation of neuron death"
##                     "positive regulation of antigen processing and presentation of peptide antigen via
##                     "negative regulation of lipopolysaccharide-mediated signaling pathway"
##                     "gland morphogenesis"
##                     "tRNA metabolic process"
##                     "asparagine biosynthetic process"
##                     "glycolipid metabolic process"
##                     "vestibulocochlear nerve formation"
##                     "response to vitamin K"
##                     "protein glycosylation in Golgi"
##                     "calcitriol biosynthetic process from calciol"
##                     "'de novo' GDP-L-fucose biosynthetic process"
##                     "nucleolar large rRNA transcription by RNA polymerase I"
##                     "positive regulation of cellular component biogenesis"
##                     "dUTP catabolic process"
##                     "cytoskeletal matrix organization at active zone"
##                     "negative regulation of cytokine activity"
##                     "endocardial cushion cell development"
##                     "L-asparagine biosynthetic process"
##                     "proteasome core complex assembly"
##                     "neurexin clustering involved in presynaptic membrane assembly"
##                     "postsynaptic specialization assembly"
##                     "positive regulation of presynaptic active zone assembly"
##                     "AMP catabolic process"
##                     "positive regulation of germinal center formation"
##                     "negative regulation of heart rate"
##                     "L-alanine transport"
##                     "slow-twitch skeletal muscle fiber contraction"
##                     "positive regulation of bicellular tight junction assembly"
##                     "positive regulation of natural killer cell mediated cytotoxicity directed against
##                     "regulation of immunoglobulin secretion"
##                     "regulation of nitrogen compound metabolic process"
##                     "negative regulation of respiratory burst"
##                     "regulation of antimicrobial humoral response"
##                     "gamma-aminobutyric acid catabolic process"
##                     "parallel actin filament bundle assembly"
##                     "vitamin transmembrane transport"
##                     "developmental growth involved in morphogenesis"
##                     "protein localization to mitotic spindle"
##                     "luteinization"
##                     "response to carbohydrate"
##                     "lagging strand elongation"
##                     "regulation of cellular component organization"
##                     "mammary gland involution"
##                     "endomembrane system organization"
```

```
##                     "positive regulation of fibroblast proliferation"
##                     "response to lipopolysaccharide"
##                     "trigeminal nerve development"
##                     "double-strand break repair via single-strand annealing"
##                     "bile acid conjugation"
##                     "immunoglobulin production in mucosal tissue"
##                     "regulation of chromatin assembly"
##                     "chemorepulsion of branchiomotor axon"
##                     "negative regulation of interleukin-18 production"
##                     "FAD transmembrane transport"
##                     "regulation of negative chemotaxis"
##                     "positive regulation of oocyte development"
##                     "skeletal muscle organ development"
##                     "positive regulation of DNA-templated transcription, termination"
##                     "cellular hypotonic salinity response"
##                     "negative regulation of peptidyl-lysine crotonylation"
##                     "positive regulation of microtubule motor activity"
##                     "positive regulation of termination of RNA polymerase II transcription, poly(A)-cou
##                     "membrane lipid catabolic process"
##                     "semi-lunar valve development"
##                     "synapsis"
##                     "positive regulation of cell differentiation"
##                     "dendritic transport of mitochondrion"
##                     "Purkinje myocyte differentiation"
##                     "septum secundum development"
##                     "internal protein amino acid acetylation"
##                     "positive regulation of very-low-density lipoprotein particle remodeling"
##                     "dolichol biosynthetic process"
##                     "corticospinal neuron axon guidance through spinal cord"
##                     "regulation of histone methylation"
##                     "negative regulation of mast cell apoptotic process"
##                     "response to vitamin B2"
##                     "induction of negative chemotaxis"
##                     "ventral spinal cord interneuron fate commitment"
##                     "mammary placode formation"
##                     "atrioventricular node cell fate commitment"
##                     "heterochromatin maintenance"
##                     "cellular response to non-ionic osmotic stress"
##                     "renal filtration"
##                     "positive regulation of protein tyrosine phosphatase activity"
##                     "viral genome replication"
##                     "branch elongation involved in ureteric bud branching"
##                     "mesonephric epithelium development"
##                     "copper ion import"
##                     "signal transduction involved in regulation of gene expression"
##                     "regulation of potassium ion import"
##                     "regulation of voltage-gated potassium channel activity involved in ventricular ca
##                     "regulation of potassium ion export across plasma membrane"
##                     "receptor biosynthetic process"
##                     "sphinganine biosynthetic process"
##                     "insecticide metabolic process"
##                     "zinc ion transport"
##                     "negative regulation of small GTPase mediated signal transduction"
##                     "negative regulation of high-density lipoprotein particle clearance"
```

```
##                    "RNA interference"
##                    "forebrain neuron fate commitment"
##                    "developmental induction"
##                    "telomere formation via telomerase"
##                    "negative regulation of transforming growth factor beta2 production"
##                    "protein glycosylation in endoplasmic reticulum"
##                    "RNA folding"
##                    "ameloblast differentiation"
##                    "quinolinate metabolic process"
##                    "establishment of anatomical structure orientation"
##                    "vesicle localization"
##                    "protein-lipid complex assembly"
##                    "positive regulation of enamel mineralization"
##                    "positive regulation of bile acid biosynthetic process"
##                    "negative regulation of phospholipid biosynthetic process"
##                    "cellular response to sodium dodecyl sulfate"
##                    "negative regulation of neutrophil chemotaxis"
##                    "regulation of histone H4 acetylation"
##                    "telomerase RNA localization to Cajal body"
##                    "basal dendrite morphogenesis"
##                    "positive regulation of cell cycle phase transition"
##                    "exon-exon junction complex disassembly"
##                    "negative regulation of microvillus assembly"
##                    "negative regulation of vascular smooth muscle contraction"
##                    "protein localization to Cajal body"
##                    "negative regulation of platelet-derived growth factor receptor-alpha signaling pa
##                    "regulation of histone H3-K36 trimethylation"
##                    "response to ozone"
##                    "negative regulation of viral process"
##                    "dephosphorylation"
##                    "positive regulation of hematopoietic stem cell proliferation"
##                    "positive regulation of miRNA mediated inhibition of translation"
##                    "chondrocyte differentiation involved in endochondral bone morphogenesis"
##                    "positive regulation of interferon-beta biosynthetic process"
##                    "tRNA 3'-end processing"
##                    "positive regulation of cytokine production involved in inflammatory response"
##                    "regulation of interferon-gamma-mediated signaling pathway"
##                    "fasciculation of sensory neuron axon"
##                    "enzyme-directed rRNA pseudouridine synthesis"
##                    "cellular sphingolipid homeostasis"
##                    "negative regulation of ceramide biosynthetic process"
##                    "negative regulation of antigen processing and presentation of peptide antigen via
##                    "atrioventricular valve development"
##                    "xylulose metabolic process"
##                    "peroxisome membrane biogenesis"
##                    "regulation of calcium ion-dependent exocytosis"
##                    "subthalamic nucleus development"
##                    "negative regulation of signaling"
##                    "gamma-delta T cell differentiation"
##                    "D-xylose metabolic process"
##                    "positive regulation of rhodopsin gene expression"
##                    "prolactin secreting cell differentiation"
##                    "bronchiole development"
##                    "superior vena cava morphogenesis"
```

```
##                      "protein secretion by platelet"
##                      "determination of intestine left/right asymmetry"
##                      "determination of stomach left/right asymmetry"
##                      "epithelial cell apoptotic process involved in palatal shelf morphogenesis"
##                      "regulation of planar cell polarity pathway involved in neural tube closure"
##                      "negative regulation of T-helper 17 cell lineage commitment"
##                      "negative regulation of binding of sperm to zona pellucida"
##                      "interleukin-2 production"
##                      "positive regulation of cation channel activity"
##                      "negative regulation of chromatin silencing at rDNA"
##                      "immune response-activating cell surface receptor signaling pathway"
##                      "thymus development"
##                      "dolichol-linked oligosaccharide biosynthetic process"
##                      "depyrimidination"
##                      "endothelial cell chemotaxis"
##                      "zymogen granule exocytosis"
##                      "heterochromatin assembly"
##                      "establishment of natural killer cell polarity"
##                      "basophil degranulation"
##                      "CMP-N-acetylneuraminate biosynthetic process"
##                      "DNA catabolic process"
##                      "vagus nerve morphogenesis"
##                      "regulation of transcription from RNA polymerase II promoter involved in forebrain
##                      "cerebral cortex GABAergic interneuron fate commitment"
##                      "negative regulation by host of viral transcription"
##                      "regulation of respiratory system process"
##                      "UMP salvage"
##                      "phosphatidic acid metabolic process"
##                      "intracellular pH reduction"
##                      "ciliary body morphogenesis"
##                      "positive regulation of platelet-derived growth factor production"
##                      "endocardial cushion to mesenchymal transition"
##                      "leukotriene D4 biosynthetic process"
##                      "positive regulation of amacrine cell differentiation"
##                      "protein transport from ciliary membrane to plasma membrane"
##                      "protein localization to microvillus"
##                      "male genitalia development"
##                      "antigen processing and presentation of exogenous antigen"
##                      "regulation of epithelium regeneration"
##                      "viral life cycle"
##                      "neurotransmitter receptor metabolic process"
##                      "response to leucine"
##                      "establishment of integrated proviral latency"
##                      "intracellular receptor signaling pathway"
##                      "regulation of glycogen catabolic process"
##                      "C-terminal protein methylation"
##                      "response to nematode"
##                      "positive regulation of synaptic vesicle priming"
##                      "nucleobase transport"
##                      "L-ascorbic acid transmembrane transport"
##                      "chromatin silencing by small RNA"
##                      "positive regulation of aldosterone biosynthetic process"
##                      "tRNA methylthiolation"
##                      "dendritic cell homeostasis"
```

```
##                     "transepithelial L-ascorbic acid transport"
##                     "cellular response to raffinose"
##                     "regulation of intracellular signal transduction"
##                     "regulation of astrocyte chemotaxis"
##                     "positive regulation of interleukin-1-mediated signaling pathway"
##                     "protein deneddylation"
##                     "cellular response to chromate"
##                     "susceptibility to natural killer cell mediated cytotoxicity"
##                     "negative regulation of triglyceride catabolic process"
##                     "regulation of translational initiation by eIF2 alpha dephosphorylation"
##                     "cellular response to high density lipoprotein particle stimulus"
##                     "type I interferon production"
##                     "regulation of neuronal signal transduction"
##                     "positive regulation of neurofibrillary tangle assembly"
##                     "negative regulation of response to endoplasmic reticulum stress"
##                     "negative regulation of cellular response to thapsigargin"
##                     "negative regulation of cellular response to tunicamycin"
##                     "positive regulation of isotype switching to IgE isotypes"
##                     "membrane raft localization"
##                     "T cell differentiation involved in immune response"
##                     "hepatic immune response"
##                     "pyrimidine ribonucleotide biosynthetic process"
##                     "selenocysteine biosynthetic process"
##                     "chemorepulsion involved in embryonic olfactory bulb interneuron precursor migratio
##                     "regulation of prostaglandin biosynthetic process"
##                     "regulation of protein dephosphorylation"
##                     "positive regulation of cell volume"
##                     "tRNA seleno-modification"
##                     "metanephric loop of Henle development"
##                     "negative regulation of the force of heart contraction"
##                     "negative regulation of arginine catabolic process"
##                     "calcium ion export"
##                     "negative regulation of polyamine transmembrane transport"
##                     "negative regulation of citrulline biosynthetic process"
##                     "response to acetylcholine"
##                     "positive regulation of miRNA catabolic process"
##                     "phosphatidylethanolamine acyl-chain remodeling"
##                     "embryonic heart tube left/right pattern formation"
##                     "regulation of slow-twitch skeletal muscle fiber contraction"
##                     "chylomicron assembly"
##                     "cilium movement"
##                     "response to fluoride"
##                     "positive regulation of adenosine receptor signaling pathway"
##                     "Golgi to endosome transport"
##                     "taurine transport"
##                     "regulation of bone mineralization"
##                     "regulation of mast cell apoptotic process"
##                     "negative regulation of dermatome development"
##                     "transepithelial ammonium transport"
##                     "negative regulation of mononuclear cell migration"
##                     "distal tubule morphogenesis"
##                     "3'-phospho-5'-adenylyl sulfate transmembrane transport"
##                     "natural killer cell differentiation"
##                     "collecting duct development"
```

```
##                     "regulation of integrin-mediated signaling pathway"
##                     "lipid biosynthetic process"
##                     "neutrophil mediated immunity"
##                     "tyrosyl-tRNA aminoacylation"
##                     "protein geranylgeranylation"
##                     "dTTP biosynthetic process"
##                     "protein destabilization"
##                     "Factor XII activation"
##                     "positive regulation of macromolecule biosynthetic process"
##                     "negative regulation of chemokine biosynthetic process"
##                     "positive regulation of lipoprotein metabolic process"
##                     "mammillary axonal complex development"
##                     "mitochondrial tyrosyl-tRNA aminoacylation"
##                     "mitochondrial tRNA modification"
##                     "cementum mineralization"
##                     "microtubule plus-end directed mitotic chromosome migration"
##                     "lateral attachment of mitotic spindle microtubules to kinetochore"
##                     "regulation of relaxation of muscle"
##                     "positive regulation of lens fiber cell differentiation"
##                     "ganglioside GM1 transport to membrane"
##                     "calcium ion regulated lysosome exocytosis"
##                     "regulation of barbed-end actin filament capping"
##                     "regulation of Ras protein signal transduction"
##                     "negative regulation of alkaline phosphatase activity"
##                     "striated muscle tissue development"
##                     "positive regulation of interleukin-12 biosynthetic process"
##                     "positive regulation of telomere capping"
##                     "embryonic skeletal joint morphogenesis"
##                     "response to odorant"
##                     "isotype switching"
##                     "chronological cell aging"
##                     "hair cycle process"
##                     "iron assimilation by chelation and transport"
##                     "negative regulation by host of viral process"
##                     "stereocilium maintenance"
##                     "positive regulation of bone mineralization involved in bone maturation"
##                     "late endosome to lysosome transport"
##                     "regulation of protein targeting"
##                     "negative regulation of tumor necrosis factor (ligand) superfamily member 11 produ
##                     "negative regulation of interleukin-5 secretion"
##                     "mature B cell differentiation"
##                     "immunoglobulin secretion involved in immune response"
##                     "rRNA methylation"
##                     "very long-chain fatty-acyl-CoA metabolic process"
##                     "positive regulation of behavioral fear response"
##                     "nuclear envelope organization"
##                     "nuclear DNA replication"
##                     "spindle assembly"
##                     "negative regulation of sodium ion transmembrane transport"
##                     "negative regulation of defense response to virus by host"
##                     "negative regulation of low-density lipoprotein receptor activity"
##                     "rRNA modification"
##                     "regulation of protein catabolic process at presynapse, modulating synaptic transm
##                     "protein methylation"
```

```
##                     "positive regulation of protein binding"
##                     "positive regulation of caveolin-mediated endocytosis"
##                     "dihydrofolate biosynthetic process"
##                     "carbohydrate mediated signaling"
##                     "polarity specification of anterior/posterior axis"
##                     "positive regulation of skeletal muscle cell proliferation"
##                     "cell migration involved in kidney development"
##                     "desmosome disassembly"
##                     "hemoglobin biosynthetic process"
##                     "membrane biogenesis"
##                     "tetrahydrofolylpolyglutamate biosynthetic process"
##                     "germline cell cycle switching, mitotic to meiotic cell cycle"
##                     "trachea morphogenesis"
##                     "right lung development"
##                     "left lung development"
##                     "primary prostatic bud elongation"
##                     "pulmonary vein morphogenesis"
##                     "regulation of prostatic bud formation"
##                     "regulation of mesenchymal cell proliferation involved in prostate gland developme
##                     "mesenchymal smoothened signaling pathway involved in prostate gland development"
##                     "positive regulation of sclerotome development"
##                     "planar cell polarity pathway involved in heart morphogenesis"
##                     "G1 to G0 transition involved in cell differentiation"
##                     "establishment of planar polarity involved in neural tube closure"
##                     "regulation of nodal signaling pathway involved in determination of lateral mesode
##                     "negative regulation of cell-cell adhesion by negative regulation of transcription
##                     "regulation of melanosome organization"
##                     "positive regulation of oxidative stress-induced cell death"
##                     "negative regulation of metalloendopeptidase activity"
##                     "tracheoesophageal septum formation"
##                     "negative regulation of ureter smooth muscle cell differentiation"
##                     "positive regulation of ureter smooth muscle cell differentiation"
##                     "negative regulation of kidney smooth muscle cell differentiation"
##                     "positive regulation of kidney smooth muscle cell differentiation"
##                     "respiratory tube development"
##                     "chemorepulsion of dopaminergic neuron axon"
##                     "regulation of double-strand break repair via nonhomologous end joining"
##                     "optic cup structural organization"
##                     "response to immobilization stress"
##                     "positive regulation of fibroblast growth factor receptor signaling pathway"
##                     "DNA strand elongation"
##                     "regulation of heterotypic cell-cell adhesion"
##                     "regulation of toll-like receptor 3 signaling pathway"
##                     "positive regulation of hair cycle"
##                     "anterograde dendritic transport"
##                     "positive regulation of transdifferentiation"
##                     "negative regulation of production of siRNA involved in RNA interference"
##                     "comma-shaped body morphogenesis"
##                     "S-shaped body morphogenesis"
##                     "regulation of protein deacetylation"
##                     "immunoglobulin secretion"
##                     "regulation of cardiac muscle cell proliferation"
##                     "thyroid hormone transport"
##                     "ribonucleoprotein complex localization"
```

```
##                        "mannosylation"
##                        "regulation of hepatocyte proliferation"
##                        "regulation of store-operated calcium entry"
##                        "regulation of chromatin assembly or disassembly"
##                        "tRNA dihydrouridine synthesis"
##                        "cardiogenic plate morphogenesis"
##                        "skeletal muscle satellite cell commitment"
##                        "cerebral cortex GABAergic interneuron differentiation"
##                        "membrane docking"
##                        "negative regulation of myeloid cell apoptotic process"
##                        "regulation of transcription from RNA polymerase II promoter involved in definitive
##                        "negative regulation of metanephric glomerular mesangial cell proliferation"
##                        "histone H3-T3 phosphorylation"
##                        "membrane repolarization during bundle of His cell action potential"
##                        "membrane repolarization during SA node cell action potential"
##                        "response to antineoplastic agent"
##                        "negative regulation of sensory perception of pain"
##                        "regulation of cardiac cell fate specification"
##                        "negative regulation of neural precursor cell proliferation"
##                        "regulation of gene silencing"
##                        "neurotransmitter receptor transport postsynaptic membrane to endosome"
##                        "steroid hormone receptor complex assembly"
##                        "protein localization by the Cvt pathway"
##                        "positive regulation of adenylate cyclase-inhibiting dopamine receptor signaling pa
##                        "insulin secretion"
##                        "positive regulation of translational initiation in response to stress"
##                        "cell death in response to hydrogen peroxide"
##                        "polysaccharide digestion"
##                        "positive regulation of T-helper cell differentiation"
##                        "venous blood vessel morphogenesis"
##                        "negative regulation of NK T cell proliferation"
##                        "glutamate reuptake"
##                        "positive regulation of endoplasmic reticulum stress-induced eIF2 alpha dephosphory
##                        "positive regulation of hepatic stellate cell proliferation"
##                        "G protein-coupled receptor catabolic process"
##                        "positive regulation of SREBP signaling pathway"
##                        "renal vesicle induction"
##                        "endodermal cell differentiation"
##                        "glomerular visceral epithelial cell migration"
##                        "tRNA-type intron splice site recognition and cleavage"
##                        "fucose metabolic process"
##                        "insulin processing"
##                        "negative regulation of plasma lipoprotein oxidation"
##                        "sequestering of neurotransmitter"
##                        "S-adenosylhomocysteine metabolic process"
##                        "system development"
##                        "stem cell fate specification"
##                        "heterochromatin assembly involved in chromatin silencing"
##                        "positive regulation of tubulin deacetylation"
##                        "regulation of post-translational protein modification"
##                        "negative regulation of ATF6-mediated unfolded protein response"
##                        "regulation of neutrophil extravasation"
##                        "positive regulation of innate immune response"
##                        "segmentation"
```

```
##                     "histone H2B conserved C-terminal lysine deubiquitination"
##                     "negative regulation of keratinocyte migration"
##                     "positive regulation of single-stranded telomeric DNA binding"
##                     "negative regulation of transcription from RNA polymerase II promoter in response
##                     "maintenance of unfolded protein involved in ERAD pathway"
##                     "telomere-telomerase complex assembly"
##                     "maintenance of postsynaptic density structure"
##                     "cell proliferation in forebrain"
##                     "positive regulation of t-circle formation"
##                     "oculomotor nerve formation"
##                     "metanephric part of ureteric bud development"
##                     "RNA phosphodiester bond hydrolysis, exonucleolytic"
##                     "regulation of urine volume"
##                     "trehalose metabolic process"
##                     "trehalose catabolic process"
##                     "sorbitol catabolic process"
##                     "isoprenoid metabolic process"
##                     "ribonucleoside diphosphate catabolic process"
##                     "BMP signaling pathway involved in spinal cord dorsal/ventral patterning"
##                     "slow endocytic recycling"
##                     "histone H3-K23 acetylation"
##                     "L-xylitol catabolic process"
##                     "L-xylitol metabolic process"
##                     "regulation of neurotrophin TRK receptor signaling pathway"
##                     "carbohydrate derivative metabolic process"
##                     "positive regulation of peptidyl-serine dephosphorylation"
##                     "positive regulation of granulocyte macrophage colony-stimulating factor production
##                     "positive regulation of nuclear-transcribed mRNA poly(A) tail shortening"
##                     "base-excision repair, DNA ligation"
##                     "regulation of stress granule assembly"
##                     "positive regulation of peptidyl-lysine acetylation"
##                     "endonucleolytic cleavage to generate mature 3'-end of SSU-rRNA from (SSU-rRNA, 5.8
##                     "intestinal epithelial cell maturation"
##                     "viral capsid secondary envelopment"
##                     "sister chromatid segregation"
##                     "nucleocytoplasmic transport"
##                     "positive regulation of type B pancreatic cell development"
##                     "cysteinyl-tRNA aminoacylation"
##                     "smooth muscle adaptation"
##                     "lipopolysaccharide transport"
##                     "long-chain fatty-acyl-CoA metabolic process"
##                     "positive regulation of myosin light chain kinase activity"
##                     "response to platelet-derived growth factor"
##                     "positive regulation of NK T cell proliferation"
##                     "cellular response to tumor cell"
##                     "positive regulation of macrophage migration"
##                     "negative regulation of branching morphogenesis of a nerve"
##                     "negative regulation of hydrogen peroxide catabolic process"
##                     "positive regulation of blood microparticle formation"
##                     "regulation of membrane repolarization"
##                     "negative regulation of interferon-beta biosynthetic process"
##                     "negative regulation of membrane protein ectodomain proteolysis"
##                     "positive regulation of tooth mineralization"
##                     "retrograde transport, endosome to plasma membrane"
```

```
##                     "response to metal ion"
##                     "positive regulation of satellite cell activation involved in skeletal muscle reger
##                     "organic anion transport"
##                     "trimming of terminal mannose on B branch"
##                     "trimming of first mannose on A branch"
##                     "trimming of second mannose on A branch"
##                     "regulation of histone H3-K9 methylation"
##                     "cytosolic calcium ion transport"
##                     "N-acylethanolamine metabolic process"
##                     "regulation of protein exit from endoplasmic reticulum"
##                     "regulation of mitotic spindle assembly"
##                     "regulation of tumor necrosis factor production"
##                     "negative regulation of collagen binding"
##                     "sequestering of triglyceride"
##                     "chromatin maintenance"
##                     "cardiac left ventricle formation"
##                     "pyridoxal phosphate catabolic process"
##                     "negative regulation of mast cell activation involved in immune response"
##                     "dorsal aorta development"
##                     "gamma-delta T cell activation"
##                     "negative regulation of cholesterol transporter activity"
##                     "muscle structure development"
##                     "negative regulation of interleukin-6-mediated signaling pathway"
##                     "olfactory bulb axon guidance"
##                     "negative regulation of interleukin-2-mediated signaling pathway"
##                     "negative regulation of interleukin-4-mediated signaling pathway"
##                     "negative regulation of positive thymic T cell selection"
##                     "DNA strand elongation involved in mitotic DNA replication"
##                     "positive regulation of androgen secretion"
##                     "cellular chloride ion homeostasis"
##                     "regulation of meiotic cell cycle"
##                     "osteoclast proliferation"
##                     "lymphocyte differentiation"
##                     "fatty acid catabolic process"
##                     "positive regulation of interferon-gamma production"
##                     "negative regulation of melanin biosynthetic process"
##                     "positive regulation of calcium-mediated signaling"
##                     "regulation of telomerase RNA localization to Cajal body"
##                     "phosphatidylglycerol acyl-chain remodeling"
##                     "pyrimidine nucleoside salvage"
##                     "ATP hydrolysis coupled transmembrane transport"
##                     "IMP metabolic process"
##                     "negative regulation of cardiac muscle contraction"
##                     "interleukin-2 secretion"
##                     "RNA catabolic process"
##                     "chloride ion homeostasis"
##                     "right ventricular compact myocardium morphogenesis"
##                     "detection of virus"
##                     "vascular endothelial growth factor receptor-1 signaling pathway"
##                     "regulation of signal transduction by receptor internalization"
##                     "positive regulation of glial cell differentiation"
##                     "regulation of nerve growth factor receptor activity"
##                     "microtubule nucleation by spindle pole body"
##                     "negative regulation of sarcomere organization"
```

```
##                      "negative regulation of membrane depolarization during cardiac muscle cell action
##                      "negative regulation of mesenchymal cell proliferation involved in lung development
##                      "fibroblast migration"
##                      "pituitary gland development"
##                      "microglial cell proliferation"
##                      "trachea gland development"
##                      "nuclear polyadenylation-dependent rRNA catabolic process"
##                      "protein localization to bicellular tight junction"
##                      "regulation of hormone metabolic process"
##                      "vacuolar protein processing"
##                      "oocyte differentiation"
##                      "cell motility involved in cerebral cortex radial glia guided migration"
##                      "positive regulation of myeloid dendritic cell activation"
##                      "negative regulation of synaptic transmission, dopaminergic"
##                      "regulation of DNA endoreduplication"
##                      "regulation of actin filament-based process"
##                      "pronephric field specification"
##                      "branch elongation of an epithelium"
##                      "cellular response to growth factor stimulus"
##                      "negative regulation of mesenchymal cell apoptotic process involved in metanephric
##                      "interneuron axon guidance"
##                      "negative regulation of apoptotic process involved in metanephric collecting duct
##                      "negative regulation of apoptotic process involved in metanephric nephron tubule de
##                      "negative regulation of smooth muscle cell-matrix adhesion"
##                      "positive regulation of metanephric DCT cell differentiation"
##                      "regulation of progesterone secretion"
##                      "regulation of protein import into nucleus, translocation"
##                      "regulation of gene expression, epigenetic"
##                      "thyroid gland development"
##                      "developmental process involved in reproduction"
##                      "positive regulation of humoral immune response mediated by circulating immunoglob
##                      "lipid transport involved in lipid storage"
##                      "regulation of protein homooligomerization"
##                      "protein localization to M-band"
##                      "maintenance of location in cell"
##                      "positive regulation of postsynaptic membrane organization"
##                      "negative regulation of presynaptic membrane organization"
##                      "positive regulation of lipid transport across blood brain barrier"
##                      "positive regulation of heparan sulfate binding"
##                      "positive regulation of heparan sulfate proteoglycan binding"
##                      "regulation of cellular response to very-low-density lipoprotein particle stimulus
##                      "negative regulation of clathrin-dependent endocytosis"
##                      "meiotic DNA repair synthesis"
##                      "SRP-dependent cotranslational protein targeting to membrane, signal sequence recog
##                      "regulation of skeletal muscle contraction via regulation of action potential"
##                      "absorption of visible light"
##                      "regulation of actin filament bundle assembly"
##                      "isopentenyl diphosphate metabolic process"
##                      "alpha-beta T cell proliferation"
##                      "DNA ligation involved in DNA repair"
##                      "negative regulation of cytosolic calcium ion concentration"
##                      "negative regulation of elastin biosynthetic process"
##                      "establishment of blood-brain barrier"
##                      "regulation of lysosomal membrane permeability"
```

```
##                     "regulation of nodal signaling pathway"
##                     "negative regulation of single-species biofilm formation in or on host organism"
##                     "negative regulation of chorionic trophoblast cell proliferation"
##                     "negative regulation of mitotic cell cycle phase transition"
##                     "negative regulation of adherens junction organization"
##                     "tricellular tight junction assembly"
##                     "negative regulation of beta-catenin-TCF complex assembly"
##                     "regulation of miRNA metabolic process"
##                     "hypothalamus cell migration"
##                     "gall bladder development"
##                     "positive regulation of histone deubiquitination"
##                     "box H/ACA snoRNA 3'-end processing"
##                     "regulation of synaptic plasticity"
##                     "cellular response to dexamethasone stimulus"
##                     "N-terminal protein amino acid acetylation"
##                     "positive regulation of centriole elongation"
##                     "protein lipidation"
##                     "RNA 5'-end processing"
##                     "antigen processing and presentation of endogenous peptide antigen via MHC class II
##                     "cerebellar molecular layer formation"
##                     "regulation of skeletal muscle tissue growth"
##                     "definitive erythrocyte differentiation"
##                     "left lung morphogenesis"
##                     "epithelial cell maturation involved in salivary gland development"
##                     "Notch signaling pathway involved in arterial endothelial cell fate commitment"
##                     "positive regulation of meiosis I"
##                     "positive regulation of glutamate neurotransmitter secretion in response to membran
##                     "skin epidermis development"
##                     "positive regulation of plasma cell differentiation"
##                     "positive regulation of cation transmembrane transport"
##                     "negative regulation of cardiac vascular smooth muscle cell differentiation"
##                     "nuclear-transcribed mRNA catabolic process, endonucleolytic cleavage-dependent dec
##                     "DNA clamp unloading"
##                     "outer dynein arm assembly"
##                     "negative regulation of vitamin D receptor signaling pathway"
##                     "metanephric nephron tubule formation"
##                     "myeloid dendritic cell activation"
##                     "membrane protein proteolysis"
##                     "chemotaxis to arachidonic acid"
##                     "regulation of glial cell proliferation"
##                     "myeloid dendritic cell activation involved in immune response"
##                     "negative regulation of cellular protein metabolic process"
##                     "negative regulation of Ras protein signal transduction"
##                     "regulation of sequestering of zinc ion"
##                     "regulation of histone H3-K36 methylation"
##                     "female meiosis II"
##                     "motor neuron axon guidance"
##                     "female gonad development"
##                     "fourth ventricle development"
##                     "initiation of neural tube closure"
##                     "negative regulation of myeloid dendritic cell activation"
##                     "dADP catabolic process"
##                     "dGDP catabolic process"
##                     "GDP catabolic process"
```

```
##                      "axon extension involved in regeneration"
##                      "synaptic transmission, glycinergic"
##                      "metanephric glomerular basement membrane development"
##                      "establishment of protein localization to endoplasmic reticulum"
##                      "positive regulation of polyamine transmembrane transport"
##                      "response to X-ray"
##                      "protein prenylation"
##                      "bile acid biosynthetic process"
##                      "secretory granule organization"
##                      "positive regulation of phospholipid efflux"
##                      "ciliary transition zone assembly"
##                      "cellular response to erythropoietin"
##                      "negative regulation by virus of viral protein levels in host cell"
##                      "renal tubule development"
##                      "negative regulation of metanephric nephron tubule epithelial cell differentiation"
##                      "positive regulation of anterior head development"
##                      "modification of synaptic structure, modulating synaptic transmission"
##                      "regulation of TORC1 signaling"
##                      "DNA replication-independent nucleosome assembly"
##                      "interleukin-9-mediated signaling pathway"
##                      "methionyl-tRNA aminoacylation"
##                      "apoptotic process involved in endocardial cushion morphogenesis"
##                      "peptide transport"
##                      "positive regulation of interleukin-1 alpha production"
##                      "positive regulation of natural killer cell activation"
##                      "tendon cell differentiation"
##                      "positive regulation of melanin biosynthetic process"
##                      "intermediate mesodermal cell differentiation"
##                      "positive regulation of cardiac muscle fiber development"
##                      "bronchus development"
##                      "orthogonal dichotomous subdivision of terminal units involved in lung branching m
##                      "planar dichotomous subdivision of terminal units involved in lung branching morph
##                      "lateral sprouting involved in lung morphogenesis"
##                      "bud dilation involved in lung branching"
##                      "mammary gland formation"
##                      "positive regulation of branching involved in lung morphogenesis"
##                      "BMP signaling pathway involved in ureter morphogenesis"
##                      "BMP signaling pathway involved in renal system segmentation"
##                      "pulmonary artery endothelial tube morphogenesis"
##                      "establishment of protein localization to juxtaparanode region of axon"
##                      "BMP signaling pathway involved in nephric duct formation"
##                      "negative regulation of branch elongation involved in ureteric bud branching by BM
##                      "specification of ureteric bud anterior/posterior symmetry by BMP signaling pathway
##                      "mesonephric tubule formation"
##                      "ureter epithelial cell differentiation"
##                      "mesenchymal cell proliferation involved in ureter development"
##                      "negative regulation of mesenchymal cell proliferation involved in ureter developme
##                      "negative regulation of glomerulus development"
##                      "dopamine uptake"
##                      "presynaptic membrane organization"
##                      "positive regulation of macrophage colony-stimulating factor production"
##                      "positive regulation of cell proliferation involved in outflow tract morphogenesis
##                      "regulation of early endosome to recycling endosome transport"
##                      "brush border assembly"
```

```
##                        "cardiac jelly development"
##                        "cellular response to 3,3',5-triiodo-L-thyronine"
##                        "negative regulation of metanephric S-shaped body morphogenesis"
##                        "negative regulation of metanephric comma-shaped body morphogenesis"
##                        "negative regulation of cell proliferation involved in heart morphogenesis"
##                        "spinal cord dorsal/ventral patterning"
##                        "optic vesicle morphogenesis"
##                        "dendritic cell proliferation"
##                        "positive regulation of telomeric DNA binding"
##                        "negative regulation of striated muscle cell apoptotic process"
##                        "negative regulation of triglyceride metabolic process"
##                        "negative regulation of L-glutamate import across plasma membrane"
##                        "cyclic nucleotide catabolic process"
##                        "branchiomeric skeletal muscle development"
##                        "sulfur oxidation"
##                        "platelet maturation"
##                        "Fc-gamma receptor signaling pathway"
##                        "G1 DNA damage checkpoint"
##                        "histone H2B conserved C-terminal lysine ubiquitination"
##                        "regulation of protein kinase C signaling"
##                        "type B pancreatic cell apoptotic process"
##                        "histone H3-K36 dimethylation"
##                        "regulation of membrane depolarization during action potential"
##                        "negative regulation of mitotic recombination"
##                        "excitatory chemical synaptic transmission"
##                        "androgen catabolic process"
##                        "autophagic cell death"
##                        "positive regulation of granzyme B production"
##                        "mRNA pseudouridine synthesis"
##                        "box C/D snoRNA 3'-end processing"
##                        "negative regulation of mitochondrial RNA catabolic process"
##                        "negative regulation of type I hypersensitivity"
##                        "negative regulation of antibody-dependent cellular cytotoxicity"
##                        "follicular dendritic cell activation"
##                        "immune complex clearance by monocytes and macrophages"
##                        "regulation of B cell antigen processing and presentation"
##                        "antibacterial peptide secretion"
##                        "response to type III interferon"
##                        "uterine wall breakdown"
##                        "sequestering of metal ion"
##                        "reflex"
##                        "positive regulation of calcidiol 1-monooxygenase activity"
##                        "recycling endosome to Golgi transport"
##                        "regulation of immune complex clearance by monocytes and macrophages"
##                        "oxidised low-density lipoprotein particle clearance"
##                        "positive regulation of response to endoplasmic reticulum stress"
##                        "histone glutamine methylation"
##                        "negative regulation of sodium-dependent phosphate transport"
##                        "positive regulation of protein lipidation"
##                        "cardiolipin acyl-chain remodeling"
##                        "ribosome biogenesis"
##                        "natural killer cell mediated immunity"
##                        "late viral transcription"
##                        "regulation of Ral protein signal transduction"
```

```
##                     "response to gravity"
##                     "activation of phospholipase D activity"
##                     "nuclear-transcribed mRNA catabolic process, no-go decay"
##                     "positive regulation of ferrous iron binding"
##                     "positive regulation of transferrin receptor binding"
##                     "endomitotic cell cycle"
##                     "cellular response to molecule of fungal origin"
##                     "phytol metabolic process"
##                     "hexadecanal metabolic process"
##                     "positive regulation of inflammatory response"
##                     "peripheral nervous system myelin formation"
##                     "conversion of ds siRNA to ss siRNA involved in RNA interference"
##                     "leukotriene B4 catabolic process"
##                     "conversion of ds siRNA to ss siRNA"
##                     "regulation of systemic arterial blood pressure by ischemic conditions"
##                     "N-glycan processing to lysosome"
##                     "intein-mediated protein splicing"
##                     "cellular response to insulin stimulus"
##                     "cholesterol biosynthetic process via 24,25-dihydrolanosterol"
##                     "purinergic nucleotide receptor signaling pathway"
##                     "rRNA transport"
##                     "membrane disruption in other organism"
##                     "fungiform papilla morphogenesis"
##                     "positive regulation of granulocyte colony-stimulating factor production"
##                     "fibroblast activation"
##                     "negative regulation of ferroptosis"
##                     "extracellular vesicle biogenesis"
##                     "negative regulation of neutrophil activation"
##                     "regulation of retrograde vesicle-mediated transport, Golgi to ER"
##                     "positive regulation of N-terminal peptidyl-lysine acetylation"
##                     "regulation of T cell mediated immune response to tumor cell"
##                     "regulation of restriction endodeoxyribonuclease activity"
##                     "regulation of CD4-positive, alpha-beta T cell differentiation"
##                     "tumor necrosis factor secretion"
##                     "neuroblast division in subventricular zone"
##                     "negative regulation of B cell differentiation"
##                     "ceramide biosynthetic process"
##                     "positive regulation of interferon-gamma biosynthetic process"
##                     "biomineral tissue development"
##                     "engulfment of target by autophagosome"
##                     "substrate localization to autophagosome"
##                     "protein targeting to vacuole involved in autophagy"
##                     "DNA ligation"
##                     "T-helper 1 cell activation"
##                     "N-terminal peptidyl-alanine trimethylation"
##                     "N-terminal peptidyl-glycine methylation"
##                     "N-terminal peptidyl-proline dimethylation"
##                     "forebrain neuron differentiation"
##                     "N-terminal peptidyl-serine dimethylation"
##                     "N-terminal peptidyl-serine trimethylation"
##                     "sequestering of BMP in extracellular matrix"
##                     "amino acid import"
##                     "diencephalon morphogenesis"
##                     "heterotrimeric G-protein complex assembly"
```

```
##                     "negative regulation of cation channel activity"
##                     "androgen metabolic process"
##                     "CD40 signaling pathway"
##                     "antigen processing and presentation of exogenous protein antigen via MHC class Ib
##                     "cellular response to caloric restriction"
##                     "negative regulation of oligodendrocyte progenitor proliferation"
##                     "regulation of neural precursor cell proliferation"
##                     "microspike assembly"
##                     "smooth endoplasmic reticulum calcium ion homeostasis"
##                     "metanephric comma-shaped body morphogenesis"
##                     "melanocyte differentiation"
##                     "endonucleolytic cleavage in ITS1 to separate SSU-rRNA from 5.8S rRNA and LSU-rRNA
##                     "positive regulation of osteoblast differentiation"
##                     "regulation of release of sequestered calcium ion into cytosol"
##                     "response to drug"
##                     "serine phosphorylation of STAT protein"
##                     "antibacterial peptide production"
##                     "positive regulation of inflammatory response to antigenic stimulus"
##                     "glutamate decarboxylation to succinate"
##                     "muscle cell fate specification"
##                     "positive T cell selection"
##                     "cGMP catabolic process"
##                     "determination of affect"
##                     "neuroendocrine cell differentiation"
##                     "retrograde trans-synaptic signaling by nitric oxide"
##                     "positive regulation of adenylate cyclase-activating adrenergic receptor signaling
##                     "negative regulation of mesenchymal cell apoptotic process involved in metanephros
##                     "positive regulation of interleukin-18-mediated signaling pathway"
##                     "oligosaccharide catabolic process"
##                     "cardiac conduction system development"
##                     "cardiac ventricle formation"
##                     "negative regulation of action potential"
##                     "regulation of developmental pigmentation"
##                     "cellular water homeostasis"
##                     "regulation of cell communication by electrical coupling"
##                     "maintenance of lens transparency"
##                     "calcium ion transmembrane import into cytosol"
##                     "negative regulation of Golgi to plasma membrane protein transport"
##                     "establishment of meiotic spindle orientation"
##                     "negative regulation of monocyte chemotaxis"
##                     "negative regulation of metaphase/anaphase transition of meiotic cell cycle"
##                     "potassium ion import across plasma membrane"
##                     "negative regulation of apoptotic cell clearance"
##                     "Ran protein signal transduction"
##                     "protein insertion into ER membrane"
##                     "forebrain ventricular zone progenitor cell division"
##                     "fructosamine metabolic process"
##                     "positive regulation of collagen binding"
##                     "detection of diacyl bacterial lipopeptide"
##                     "farnesyl diphosphate metabolic process"
##                     "regulation of nitric oxide biosynthetic process"
##                     "lung secretory cell differentiation"
##                     "regulation of glucagon secretion"
##                     "interleukin-21 secretion"
```

```
##                      "synaptic vesicle lumen acidification"
##                      "negative regulation of lung goblet cell differentiation"
##                      "regulation of macrophage colony-stimulating factor production"
##                      "regulation of midbrain dopaminergic neuron differentiation"
##                      "negative regulation of planar cell polarity pathway involved in axis elongation"
##                      "regulation of interleukin-12 secretion"
##                      "termination of signal transduction"
##                      "positive regulation of guanylate cyclase activity"
##                      "circadian rhythm"
##                      "rod bipolar cell differentiation"
##                      "response to ciliary neurotrophic factor"
##                      "negative regulation of neuromuscular junction development"
##                      "negative regulation of dendritic cell differentiation"
##                      "negative regulation of interleukin-13 production"
##                      "regulation of growth"
##                      "menaquinone catabolic process"
##                      "vitamin K catabolic process"
##                      "deactivation of mitotic spindle assembly checkpoint"
##                      "regulation of glucose mediated signaling pathway"
##                      "negative regulation of protein localization to kinetochore"
##                      "positive regulation of DNA-dependent DNA replication"
##                      "transcription initiation from mitochondrial promoter"
##                      "mRNA export from nucleus in response to heat stress"
##                      "regulation of exit from mitosis"
##                      "positive regulation of cell size"
##                      "positive regulation of toll-like receptor 9 signaling pathway"
##                      "eiF2alpha phosphorylation in response to endoplasmic reticulum stress"
##                      "histone H2A K63-linked deubiquitination"
##                      "drug transport"
##                      "medial motor column neuron differentiation"
##                      "detection of triacyl bacterial lipopeptide"
##                      "epithelial cell morphogenesis involved in placental branching"
##                      "regulation of endothelial cell apoptotic process"
##                      "PML body organization"
##                      "regulation of interleukin-4 production"
##                      "ferric iron import"
##                      "positive regulation of activated T cell autonomous cell death"
##                      "regulation of lysosomal protein catabolic process"
##                      "interleukin-23-mediated signaling pathway"
##                      "rDNA condensation"
##                      "regulation of the force of heart contraction by cardiac conduction"
##                      "positive regulation of mitotic cohesin loading"
##                      "anterior/posterior axis specification"
##                      "COPI-coated vesicle budding"
##                      "vesicle targeting, to, from or within Golgi"
##                      "rhythmic synaptic transmission"
##                      "cellular response to cAMP"
##                      "heart morphogenesis"
##                      "pancreatic A cell differentiation"
##                      "D-ribose metabolic process"
##                      "enzyme active site formation via cysteine modification to L-cysteine persulfide"
##                      "cerebellum formation"
##                      "midbrain-hindbrain boundary maturation during brain development"
##                      "phosphoanandamide dephosphorylation"
```

```
##                     "astrocyte-dopaminergic neuron signaling"
##                     "dATP catabolic process"
##                     "male gamete generation"
##                     "negative regulation of mesenchymal cell apoptotic process involved in nephron mor
##                     "metanephric distal convoluted tubule development"
##                     "cellular response to 2,3,7,8-tetrachlorodibenzodioxine"
##                     "response to phosphatidylethanolamine"
##                     "histone ubiquitination"
##                     "regulation of potassium ion transmembrane transporter activity"
##                     "negative regulation of amyloid precursor protein catabolic process"
##                     "retinal rod cell differentiation"
##                     "inositol lipid-mediated signaling"
##                     "positive regulation of Fc-gamma receptor signaling pathway involved in phagocytos
##                     "single strand break repair"
##                     "positive regulation of blood vessel diameter"
##                     "regulation of cell cycle process"
##                     "smooth muscle cell-matrix adhesion"
##                     "cellular response to nitroglycerin"
##                     "regulation of establishment or maintenance of cell polarity"
##                     "microtubule-based peroxisome localization"
##                     "action potential"
##                     "T-helper 1 type immune response"
##                     "spermidine metabolic process"
##                     "myosin filament assembly"
##                     "polysaccharide localization"
##                     "cellular pigment accumulation"
##                     "regulation of insulin-like growth factor receptor signaling pathway"
##                     "regulation of interleukin-12 biosynthetic process"
##                     "regulation of circadian sleep/wake cycle, non-REM sleep"
##                     "skeletal muscle tissue growth"
##                     "constitutive protein ectodomain proteolysis"
##                     "motor learning"
##                     "positive regulation of brown fat cell proliferation"
##                     "positive regulation of hyaluranon cable assembly"
##                     "negative regulation of natural killer cell chemotaxis"
##                     "mitotic G1/S transition checkpoint"
##                     "Golgi to lysosome transport"
##                     "positive regulation of chaperone-mediated autophagy"
##                     "chondrocyte proliferation"
##                     "response to inactivity"
##                     "triglyceride transport"
##                     "developmental cell growth"
##                     "cytoskeleton-dependent cytokinesis"
##                     "cellular response to misfolded protein"
##                     "type I interferon biosynthetic process"
##                     "negative regulation of fibroblast proliferation"
##                     "plasma kallikrein-kinin cascade"
##                     "negative regulation of lamellipodium assembly"
##                     "peptidyl-pyroglutamic acid biosynthetic process, using glutaminyl-peptide cyclotra
##                     "vacuole fusion, non-autophagic"
##                     "positive regulation of interleukin-13 biosynthetic process"
##                     "regulation of T-helper cell differentiation"
##                     "spermidine catabolic process"
##                     "negative regulation of muscle tissue development"
```

```
##                      "regulation of membrane hyperpolarization"
##                      "positive regulation of voltage-gated potassium channel activity involved in ventr
##                      "negative regulation of skeletal muscle hypertrophy"
##                      "response to symbiotic bacterium"
##                      "negative regulation of actin filament depolymerization"
##                      "anterior/posterior axon guidance"
##                      "coronary sinus valve morphogenesis"
##                      "cardiac right atrium morphogenesis"
##                      "growth involved in heart morphogenesis"
##                      "Notch signaling pathway involved in regulation of secondary heart field cardiobla
##                      "foregut morphogenesis"
##                      "cell differentiation in spinal cord"
##                      "regulation of cellular localization"
##                      "regulation of epithelial cell proliferation involved in prostate gland development
##                      "venous endothelial cell differentiation"
##                      "positive regulation of aorta morphogenesis"
##                      "third ventricle development"
##                      "rRNA base methylation"
##                      "response to testosterone"
##                      "regulation of amyloid-beta clearance"
##                      "RNA secondary structure unwinding"
##                      "regulation of synaptic vesicle fusion to presynaptic active zone membrane"
##                      "nitrogen catabolite activation of transcription from RNA polymerase II promoter"
##                      "IMP biosynthetic process"
##                      "glucose mediated signaling pathway"
##                      "myo-inositol transport"
##                      "response to silicon dioxide"
##                      "regulation of urea metabolic process"
##                      "intracellular bile acid receptor signaling pathway"
##                      "dermatan sulfate proteoglycan metabolic process"
##                      "negative regulation of chemotaxis"
##                      "cyclic purine nucleotide metabolic process"
##                      "semicircular canal development"
##                      "positive regulation of kidney development"
##                      "positive regulation of phosphatidic acid biosynthetic process"
##                      "positive regulation of glutamate metabolic process"
##                      "regulation of forebrain neuron differentiation"
##                      "positive regulation of ammonia assimilation cycle"
##                      "sphingomyelin biosynthetic process"
##                      "negative regulation of G protein-coupled receptor internalization"
##                      "TRIF-dependent toll-like receptor signaling pathway"
##                      "regulation of telomere maintenance"
##                      "lateral inhibition"
##                      "telomere maintenance via telomere trimming"
##                      "positive regulation of CDP-diacylglycerol-serine O-phosphatidyltransferase activi
##                      "positive regulation of serine C-palmitoyltransferase activity"
##                      "cerebrospinal fluid secretion"
##                      "carbon dioxide transmembrane transport"
##                      "maintenance of symbiont-containing vacuole by host"
##                      "cardiac chamber formation"
##                      "acetylcholine receptor signaling pathway"
##                      "monocyte differentiation"
##                      "axon extension"
##                      "positive regulation of estradiol secretion"
```

```
##                      "inosine catabolic process"
##                      "proline metabolic process"
##                      "pyridoxal 5'-phosphate salvage"
##                      "proline catabolic process to glutamate"
##                      "ventral spinal cord interneuron specification"
##                      "negative regulation of organ growth"
##                      "axial mesoderm morphogenesis"
##                      "mesoderm morphogenesis"
##                      "mitotic spindle midzone assembly"
##                      "cell differentiation involved in salivary gland development"
##                      "regulation of neural retina development"
##                      "regulation of branch elongation involved in ureteric bud branching"
##                      "protein localization to cell junction"
##                      "positive regulation of ATF6-mediated unfolded protein response"
##                      "positive regulation of interleukin-12 secretion"
##                      "replicative cell aging"
##                      "spindle pole body organization"
##                      "negative regulation of fatty acid metabolic process"
##                      "regulation of TORC2 signaling"
##                      "axonemal dynein complex assembly"
##                      "proline catabolic process"
##                      "negative regulation of interleukin-12 production"
##                      "negative regulation of dendritic spine morphogenesis"
##                      "activation of MAPKK activity"
##                      "positive regulation of cytoplasmic translation"
##                      "regulation of animal organ formation"
##                      "mesoderm migration involved in gastrulation"
##                      "negative regulation of transcription by transcription factor localization"
##                      "integrin activation"
##                      "adrenal cortex formation"
##                      "acylglycerol acyl-chain remodeling"
##                      "dopaminergic neuron axon guidance"
##                      "serotonergic neuron axon guidance"
##                      "negative regulation of phosphatidylinositol 3-kinase activity"
##                      "positive regulation of lymphocyte differentiation"
##                      "ribose phosphate biosynthetic process"
##                      "regulation of myoblast proliferation"
##                      "transmission of virus"
##                      "development involved in symbiotic interaction"
##                      "positive regulation of nucleocytoplasmic transport"
##                      "regulation of amyloid fibril formation"
##                      "adiponectin-activated signaling pathway"
##                      "positive regulation by virus of viral protein levels in host cell"
##                      "cellular response to caffeine"
##                      "odontoblast differentiation"
##                      "recombinational repair"
##                      "negative regulation of type 2 immune response"
##                      "cellular response to inorganic substance"
##                      "negative regulation of cytotoxic T cell degranulation"
##                      "regulation of protein localization to plasma membrane"
##                      "response to nerve growth factor"
##                      "right ventricular cardiac muscle tissue morphogenesis"
##                      "5-methylcytosine catabolic process"
##                      "skeletal muscle satellite cell differentiation"
```

```
##                    "antifungal humoral response"
##                    "establishment of sister chromatid cohesion"
##                    "hippo signaling"
##                    "regulation of ribonuclease activity"
##                    "Wnt protein secretion"
##                    "regulation of complement-dependent cytotoxicity"
##                    "allantois development"
##                    "nucleolar chromatin organization"
##                    "cellular response to sterol"
##                    "gamma-aminobutyric acid secretion"
##                    "establishment of body hair planar orientation"
##                    "positive regulation of epithelial cell differentiation"
##                    "detection of temperature stimulus involved in sensory perception of pain"
##                    "negative regulation of mesenchymal to epithelial transition involved in metanephro
##                    "negative regulation of substrate adhesion-dependent cell spreading"
##                    "signal transduction downstream of smoothened"
##                    "late endosome to Golgi transport"
##                    "ventricular cardiac muscle tissue development"
##                    "monosaccharide metabolic process"
##                    "cGMP biosynthetic process"
##                    "wax biosynthetic process"
##                    "regulation of phosphatase activity"
##                    "viral protein processing"
##                    "poly-N-acetyllactosamine metabolic process"
##                    "negative regulation of nerve growth factor production"
##                    "circadian temperature homeostasis"
##                    "dense core granule priming"
##                    "dibasic protein processing"
##                    "regulation of superoxide anion generation"
##                    "positive regulation of interleukin-3 biosynthetic process"
##                    "regulation of arachidonic acid secretion"
##                    "telomere organization"
##                    "epidermal growth factor receptor signaling pathway via I-kappaB kinase/NF-kappaB
##                    "cellular extravasation"
##                    "glycerophospholipid metabolic process"
##                    "peripheral nervous system neuron axonogenesis"
##                    "cellular response to prostaglandin D stimulus"
##                    "regulation of cholesterol esterification"
##                    "Cajal body organization"
##                    "ureter smooth muscle cell differentiation"
##                    "detection of nodal flow"
##                    "gamma-aminobutyric acid biosynthetic process"
##                    "RNA modification"
##                    "heparan sulfate proteoglycan metabolic process"
##                    "protein O-linked fucosylation"
##                    "interleukin-11-mediated signaling pathway"
##                    "regulation of glutamate uptake involved in transmission of nerve impulse"
##                    "response to linoleic acid"
##                    "cellular response to hydrostatic pressure"
##                    "metanephric cortex development"
##                    "metanephric cortical collecting duct development"
##                    "metanephric distal tubule development"
##                    "ncRNA deadenylation"
##                    "semaphorin-plexin signaling pathway involved in bone trabecula morphogenesis"
```

```
##                       "bundle of His development"
##                       "phosphatidylcholine metabolic process"
##                       "adult locomotory behavior"
##                       "calcium-dependent cell-cell adhesion via plasma membrane cell adhesion molecules"
##                       "lipopolysaccharide-mediated signaling pathway"
##                       "cell-substrate junction assembly"
##                       "ERK5 cascade"
##                       "mitochondrial tRNA pseudouridine synthesis"
##                       "negative regulation of macrophage colony-stimulating factor signaling pathway"
##                       "renal water transport"
##                       "cellular response to mercury ion"
##                       "Sertoli cell differentiation"
##                       "negative regulation of protein sumoylation"
##                       "cell proliferation involved in outflow tract morphogenesis"
##                       "cellular response to corticotropin-releasing hormone stimulus"
##                       "positive regulation of mesenchymal stem cell migration"
##                       "spindle midzone assembly"
##                       "positive regulation of TORC2 signaling"
##                       "phosphatidylglycerol biosynthetic process"
##                       "zygotic specification of dorsal/ventral axis"
##                       "negative regulation of toll-like receptor 9 signaling pathway"
##                       "regulation of calcineurin-NFAT signaling cascade"
##                       "histone H3-S10 phosphorylation"
##                       "negative regulation of immature T cell proliferation in thymus"
##                       "microtubule organizing center localization"
##                       "response to pH"
##                       "lateral motor column neuron migration"
##                       "phosphatidylinositol acyl-chain remodeling"
##                       "B cell costimulation"
##                       "neurotransmitter receptor transport, endosome to postsynaptic membrane"
##                       "substrate-dependent cell migration"
##                       "phosphate ion transport"
##                       "forebrain generation of neurons"
##                       "regulation of molecular function, epigenetic"
##                       "neurotransmitter catabolic process"
##                       "vitamin E metabolic process"
##                       "regulation of cell migration involved in sprouting angiogenesis"
##                       "regulation of opsonization"
##                       "negative regulation of sodium ion transport"
##                       "ventricular cardiac myofibril assembly"
##                       "positive regulation of apoptotic process involved in mammary gland involution"
##                       "water homeostasis"
##                       "negative regulation of antigen processing and presentation of peptide or polysacch
##                       "AV node cell to bundle of His cell communication"
##                       "membrane depolarization during Purkinje myocyte cell action potential"
##                       "amine biosynthetic process"
##                       "positive regulation of protein catabolic process"
##                       "glomerular epithelium development"
##                       "positive regulation of hematopoietic progenitor cell differentiation"
##                       "positive regulation of hematopoietic stem cell differentiation"
##                       "manganese ion transmembrane transport"
##                       "regulation of exosomal secretion"
##                       "regulation of morphogenesis of a branching structure"
##                       "visual behavior"
```

```
##                     "negative regulation of muscle hyperplasia"
##                     "globus pallidus development"
##                     "cellular localization"
##                     "presynapse organization"
##                     "positive regulation of peptidyl-cysteine S-nitrosylation"
##                     "regulation of translational termination"
##                     "positive regulation of histone H3-K36 methylation"
##                     "positive regulation of nodal signaling pathway involved in determination of later
##                     "regulation of DNA N-glycosylase activity"
##                     "renal protein absorption"
##                     "GABAergic neuron differentiation"
##                     "regulation of establishment of T cell polarity"
##                     "regulation of plasma membrane raft polarization"
##                     "regulation of receptor clustering"
##                     "glycerol transport"
##                     "positive regulation of skeletal muscle acetylcholine-gated channel clustering"
##                     "negative regulation of mitochondrial membrane potential"
##                     "diencephalon development"
##                     "cell dedifferentiation"
##                     "trans-Golgi network to recycling endosome transport"
##                     "excitatory postsynaptic potential"
##                     "establishment of mitotic spindle orientation"
##                     "histone H3-K79 methylation"
##                     "myoblast migration"
##                     "positive regulation of adherens junction organization"
##                     "regulation of transcription regulatory region DNA binding"
##                     "N-acetylmannosamine metabolic process"
##                     "skeletal muscle hypertrophy"
##                     "cell differentiation in hindbrain"
##                     "nerve maturation"
##                     "peptidyl-histidine hydroxylation"
##                     "ERBB2-ERBB3 signaling pathway"
##                     "interleukin-33-mediated signaling pathway"
##                     "peptidyl-asparagine hydroxylation"
##                     "sphingoid catabolic process"
##                     "estrogen catabolic process"
##                     "positive regulation of granulocyte macrophage colony-stimulating factor biosynthet
##                     "negative regulation of DNA recombination"
##                     "positive regulation of snRNA transcription by RNA polymerase II"
##                     "mesenchymal cell apoptotic process"
##                     "N-acetylglucosamine biosynthetic process"
##                     "early viral transcription"
##                     "convergent extension involved in gastrulation"
##                     "positive regulation of rRNA processing"
##                     "neural tube formation"
##                     "negative regulation of steroid biosynthetic process"
##                     "male sex differentiation"
##                     "unidimensional cell growth"
##                     "visceral motor neuron differentiation"
##                     "canonical Wnt signaling pathway involved in mesenchymal stem cell differentiation
##                     "canonical Wnt signaling pathway involved in osteoblast differentiation"
##                     "neurotransmitter loading into synaptic vesicle"
##                     "negative regulation of Rho-dependent protein serine/threonine kinase activity"
##                     "ADP metabolic process"
```

```
##                     "synaptic vesicle budding from endosome"
##                     "negative regulation of NLRP3 inflammasome complex assembly"
##                     "quinolinate catabolic process"
##                     "regulation of acrosome reaction"
##                     "collagen biosynthetic process"
##                     "forebrain anterior/posterior pattern specification"
##                     "positive regulation of embryonic development"
##                     "negative regulation of necrotic cell death"
##                     "positive regulation of neuromuscular junction development"
##                     "response to kainic acid"
##                     "omega-hydroxylase P450 pathway"
##                     "lymphoid lineage cell migration into thymus"
##                     "diaphragm contraction"
##                     "response to cesium ion"
##                     "mast cell secretory granule organization"
##                     "trachea development"
##                     "negative regulation of mitotic DNA damage checkpoint"
##                     "positive regulation of early endosome to late endosome transport"
##                     "response to iron(III) ion"
##                     "negative regulation of nuclear-transcribed mRNA poly(A) tail shortening"
##                     "positive regulation of p38MAPK cascade"
##                     "negative regulation of CD4-positive, alpha-beta T cell proliferation"
##                     "tryptophan transport"
##                     "osteoclast fusion"
##                     "epithelial cilium movement"
##                     "oxidative DNA demethylation"
##                     "mammary gland epithelial cell proliferation"
##                     "habituation"
##                     "cell morphogenesis involved in differentiation"
##                     "sperm-egg recognition"
##                     "transcription-dependent tethering of RNA polymerase II gene DNA at nuclear periph
##                     "spongiotrophoblast differentiation"
##                     "female meiosis sister chromatid cohesion"
##                     "D-ribose catabolic process"
##                     "lateral ganglionic eminence cell proliferation"
##                     "lambdoid suture morphogenesis"
##                     "sagittal suture morphogenesis"
##                     "mammary gland specification"
##                     "anterior semicircular canal development"
##                     "lateral semicircular canal development"
##                     "dentinogenesis"
##                     "regulation of bone development"
##                     "positive regulation of prostaglandin-E synthase activity"
##                     "positive regulation of histone ubiquitination"
##                     "positive regulation of glucose catabolic process to lactate via pyruvate"
##                     "hyaluronan biosynthetic process"
##                     "L-proline import across plasma membrane"
##                     "L-tryptophan transmembrane transport"
##                     "regulation of transcription from RNA polymerase II promoter involved in spinal co
##                     "negative regulation of heart contraction"
##                     "positive regulation of cell proliferation in bone marrow"
##                     "positive regulation of mediator complex assembly"
##                     "intrinsic apoptotic signaling pathway in response to DNA damage"
##                     "response to methotrexate"
```

```
##                       "negative regulation of lipoprotein lipase activity"
##                       "evoked neurotransmitter secretion"
##                       "natural killer cell tolerance induction"
##                       "mitral valve formation"
##                       "transforming growth factor beta receptor complex assembly"
##                       "regulation of proteasomal protein catabolic process"
##                       "positive regulation of reciprocal meiotic recombination"
##                       "metanephric mesenchymal cell migration"
##                       "cell migration involved in coronary angiogenesis"
##                       "metanephric glomerular mesangial cell proliferation involved in metanephros deve
##                       "pancreatic A cell development"
##                       "forebrain-midbrain boundary formation"
##                       "regulation of transcription from RNA polymerase II promoter involved in somatic m
##                       "central nervous system myelin maintenance"
##                       "autophagy of host cells involved in interaction with symbiont"
##                       "histone lysine demethylation"
##                       "synaptonemal complex organization"
##                       "modification of postsynaptic actin cytoskeleton"
##                       "establishment of melanosome localization"
##                       "suppression by virus of host autophagy"
##                       "peptide antigen transport"
##                       "regulation of cholesterol import"
##                       "myoblast differentiation involved in skeletal muscle regeneration"
##                       "meiotic chromosome condensation"
##                       "regulation of multivesicular body size involved in endosome transport"
##                       "regulation of transcription from RNA polymerase II promoter involved in ventral sp
##                       "negative regulation of Kit signaling pathway"
##                       "response to metformin"
##                       "protein hydroxylation"
##                       "metanephric proximal tubule development"
##                       "metanephric distal tubule morphogenesis"
##                       "negative regulation of hepatic stellate cell activation"
##                       "organic cation transport"
##                       "5S class rRNA transcription by RNA polymerase III"
##                       "tRNA transcription by RNA polymerase III"
##                       "natural killer cell degranulation"
##                       "nuclear polyadenylation-dependent tRNA catabolic process"
##                       "cornea development in camera-type eye"
##                       "positive regulation of glutamate receptor signaling pathway"
##                       "tRNA transcription"
##                       "positive regulation of muscle atrophy"
##                       "negative regulation of toll-like receptor 5 signaling pathway"
##                       "regulation of vascular wound healing"
##                       "negative regulation of nucleotide-binding oligomerization domain containing 1 sig
##                       "blood coagulation, common pathway"
##                       "tolerance induction to lipopolysaccharide"
##                       "establishment of protein localization to vacuole"
##                       "regulation of myoblast fusion"
##                       "negative regulation of myoblast proliferation"
##                       "glycolipid catabolic process"
##                       "positive regulation of photoreceptor cell differentiation"
##                       "visceral serous pericardium development"
##                       "hindgut development"
##                       "endoplasmic reticulum-plasma membrane tethering"
```

```
##                     "methyl-branched fatty acid metabolic process"
##                     "neuron projection fasciculation"
##                     "negative regulation of intracellular transport of viral material"
##                     "regulation of non-motile cilium assembly"
##                     "positive regulation of Rho guanyl-nucleotide exchange factor activity"
##                     "positive regulation of T cell activation via T cell receptor contact with antigen
##                     "regulation of Rab protein signal transduction"
##                     "negative regulation of calcium-independent cell-cell adhesion"
##                     "positive regulation of Wnt signaling pathway by BMP signaling pathway"
##                     "negative regulation of double-strand break repair via nonhomologous end joining"
##                     "tricuspid valve formation"
##                     "axon target recognition"
##                     "negative regulation of neuron projection regeneration"
##                     "synaptic vesicle clustering"
##                     "polyprenol biosynthetic process"
##                     "positive regulation of cardiac epithelial to mesenchymal transition"
##                     "regulation of the force of skeletal muscle contraction"
##                     "positive regulation of ryanodine-sensitive calcium-release channel activity"
##                     "maintenance of synapse structure"
##                     "cellular response to magnetism"
##                     "ornithine biosynthetic process"
##                     "floor plate formation"
##                     "response to stilbenoid"
##                     "endocardium formation"
##                     "regulation of chaperone-mediated protein folding"
##                     "hypotonic response"
##                     "negative regulation of epithelial cell migration"
##                     "central nervous system vasculogenesis"
##                     "regulation of JUN kinase activity"
##                     "Golgi vesicle prefusion complex stabilization"
##                     "lung goblet cell differentiation"
##                     "histone H3-R26 methylation"
##                     "negative regulation of interferon-gamma-mediated signaling pathway"
##                     "inactivation of paternal X chromosome"
##                     "negative regulation of extracellular matrix assembly"
##                     "melanosome organization"
##                     "cell-abiotic substrate adhesion"
##                     "cell-cell signaling involved in cardiac conduction"
##                     "positive regulation of protein localization to early endosome"
##                     "response to vitamin"
##                     "regulation of homophilic cell adhesion"
##                     "resolution of meiotic recombination intermediates"
##                     "positive regulation of nuclease activity"
##                     "negative regulation of secretion of lysosomal enzymes"
##                     "negative regulation of ruffle assembly"
##                     "regulation of nuclear receptor transcription coactivator activity"
##                     "phospholipid scrambling"
##                     "optic nerve structural organization"
##                     "receptor catabolic process"
##                     "negative regulation of complement activation, classical pathway"
##                     "regulation of AV node cell action potential"
##                     "planar cell polarity pathway involved in axon guidance"
##                     "negative regulation of CD40 signaling pathway"
##                     "ventral midline determination"
```

```
##                     "smoothened signaling pathway involved in ventral spinal cord patterning"
##                     "negative regulation of hair follicle development"
##                     "detection of cell density by contact stimulus involved in contact inhibition"
##                     "meiotic attachment of telomere to nuclear envelope"
##                     "mesenchymal to epithelial transition involved in metanephric renal vesicle format
##                     "inhibition of cysteine-type endopeptidase activity"
##                     "regulation of heart morphogenesis"
##                     "positive regulation of tongue muscle cell differentiation"
##                     "response to pyrethroid"
##                     "error-free postreplication DNA repair"
##                     "regulation of myeloid cell apoptotic process"
##                     "nerve growth factor production"
##                     "regulation of synaptic membrane adhesion"
##                     "diacylglycerol catabolic process"
##                     "ubiquitin-dependent glycoprotein ERAD pathway"
##                     "positive regulation of T-helper 17 cell differentiation"
##                     "carbon dioxide transport"
##                     "positive regulation of chromatin assembly or disassembly"
##                     "hemangioblast cell differentiation"
##                     "regulation of mast cell differentiation"
##                     "regulation of mitotic cell cycle phase transition"
##                     "regulation of establishment of endothelial barrier"
##                     "positive regulation of anterograde synaptic vesicle transport"
##                     "cellular response to paclitaxel"
##                     "regulation of CD8-positive, alpha-beta T cell proliferation"
##                     "negative regulation of microtubule motor activity"
##                     "endonucleolytic cleavage in 5'-ETS of tricistronic rRNA transcript (SSU-rRNA, 5.8
##                     "mitotic chromosome movement towards spindle pole"
##                     "positive regulation of CD4-positive, CD25-positive, alpha-beta regulatory T cell
##                     "regulation of DNA stability"
##                     "positive regulation of phosphorylation of RNA polymerase II C-terminal domain"
##                     "negative regulation of translation in response to endoplasmic reticulum stress"
##                     "U2 snRNA 3'-end processing"
##                     "bronchus cartilage development"
##                     "lung smooth muscle development"
##                     "positive regulation of telomere maintenance via telomere lengthening"
##                     "regulation of growth rate"
##                     "syncytium formation"
##                     "mitotic cytokinesis checkpoint"
##                     "regulation of cholesterol efflux"
##                     "triglyceride-rich lipoprotein particle remodeling"
##                     "positive regulation of DNA strand elongation"
##                     "response to thyroxine"
##                     "negative regulation of hydrogen peroxide-induced neuron death"
##                     "regulation of DNA helicase activity"
##                     "positive regulation of DNA helicase activity"
##                     "negative regulation of osteoclast proliferation"
##                     "positive regulation of amyloid fibril formation"
##                     "serotonin secretion by platelet"
##                     "negative regulation of retinal ganglion cell axon guidance"
##                     "positive regulation of protein O-linked glycosylation"
##                     "regulation of translational fidelity"
##                     "regulation of ER to Golgi vesicle-mediated transport"
##                     "negative regulation of cell proliferation involved in heart valve morphogenesis"
```

```
##                     "regulation of nucleotide-excision repair"
##                     "endodermal cell fate determination"
##                     "fluorene metabolic process"
##                     "glossopharyngeal nerve morphogenesis"
##                     "regulation of chemokine production"
##                     "interleukin-8 biosynthetic process"
##                     "interleukin-17-mediated signaling pathway"
##                     "cell proliferation involved in heart valve development"
##                     "positive regulation of endocardial cushion to mesenchymal transition involved in |
##                     "immune response to tumor cell"
##                     "atrioventricular node development"
##                     "osteoblast proliferation"
##                     "visceral mesoderm-endoderm interaction involved in midgut development"
##                     "regulation of vesicle targeting, to, from or within Golgi"
##                     "positive regulation of TRAIL-activated apoptotic signaling pathway"
##                     "cell-cell adhesion mediated by integrin"
##                     "metanephric glomerular mesangial cell development"
##                     "positive regulation of intracellular transport of viral material"
##                     "positive regulation of vascular smooth muscle cell dedifferentiation"
##                     "positive regulation of metanephric mesenchymal cell migration"
##                     "sodium-dependent phosphate transport"
##                     "deoxyribonucleoside monophosphate biosynthetic process"
##                     "negative regulation of telomere maintenance in response to DNA damage"
##                     "positive regulation of telomeric loop disassembly"
##                     "mature B cell differentiation involved in immune response"
##                     "positive regulation of T-helper 17 cell lineage commitment"
##                     "cellular calcium ion homeostasis"
##                     "substrate-dependent cell migration, cell attachment to substrate"
##                     "regulation of glycoprotein biosynthetic process"
##                     "peptidyl-proline hydroxylation to 3-hydroxy-L-proline"
##                     "inositol phosphate metabolic process"
##                     "positive regulation of interleukin-4 biosynthetic process"
##                     "negative regulation of amyloid fibril formation"
##                     "glutamine secretion"
##                     "myotube differentiation involved in skeletal muscle regeneration"
##                     "bile acid and bile salt transport"
##                     "ornithine transport"
##                     "trichloroethylene metabolic process"
##                     "regulation of natural killer cell proliferation"
##                     "Wnt receptor catabolic process"
##                     "response to ammonium ion"
##                     "distal tubule development"
##                     "L-arginine transmembrane transport"
##                     "L-glutamine import across plasma membrane"
##                     "positive regulation of dopaminergic neuron differentiation"
##                     "positive regulation of histone H3-K4 trimethylation"
##                     "vasculogenesis involved in coronary vascular morphogenesis"
##                     "adenosine to inosine editing"
##                     "guanine metabolic process"
##                     "dephosphorylation of RNA polymerase II C-terminal domain"
##                     "positive regulation of DNA ligase activity"
##                     "cellular response to heparin"
##                     "protein K33-linked ubiquitination"
##                     "neutrophil activation involved in immune response"
```

```
##                     "glucosamine metabolic process"
##                     "central nervous system neuron differentiation"
##                     "regulation of intracellular transport"
##                     "ureteric bud formation"
##                     "response to Thyroglobulin triiodothyronine"
##                     "oculomotor nerve development"
##                     "trochlear nerve development"
##                     "positive regulation of mitotic cell cycle, embryonic"
##                     "negative regulation of stomach neuroendocrine cell differentiation"
##                     "renal interstitial fibroblast development"
##                     "negative regulation of pancreatic A cell differentiation"
##                     "regulation of branching involved in salivary gland morphogenesis by epithelial-mes
##                     "regulation of glomerular mesangial cell proliferation"
##                     "positive regulation of calcium ion transmembrane transport via high voltage-gated
##                     "regulation of blood vessel branching"
##                     "embryonic lung development"
##                     "ciliary basal body organization"
##                     "regulation of mismatch repair"
##                     "regulation of DNA damage response, signal transduction by p53 class mediator"
##                     "positive regulation of pigment cell differentiation"
##                     "regulation of chondrocyte development"
##                     "cohesin loading"
##                     "L-lysine transmembrane transport"
##                     "response to reactive oxygen species"
##                     "lipid glycosylation"
##                     "zinc ion import across plasma membrane"
##                     "notochord regression"
##                     "demethylation"
##                     "tRNA (guanine-N7)-methylation"
##                     "positive regulation of T cell cytokine production"
##                     "cholesterol catabolic process"
##                     "IMP salvage"
##                     "regulation of interleukin-1 beta secretion"
##                     "negative regulation of chloride transport"
##                     "neural fold bending"
##                     "positive regulation of glycogen (starch) synthase activity"
##                     "carbohydrate transport"
##                     "chemokine production"
##                     "response to cisplatin"
##                     "regulation of flagellated sperm motility"
##                     "negative regulation of DNA-dependent DNA replication"
##                     "glutathione catabolic process"
##                     "umbilical cord morphogenesis"
##                     "antigen processing and presentation of exogenous peptide antigen via MHC class I"
##                     "somatotropin secreting cell differentiation"
##                     "embryonic camera-type eye formation"
##                     "regulation of vasculogenesis"
##                     "noradrenergic neuron differentiation"
##                     "negative regulation of binding"
##                     "positive regulation of fibroblast apoptotic process"
##                     "cellular response to interferon-alpha"
##                     "interleukin-4-mediated signaling pathway"
##                     "negative regulation of mast cell degranulation"
##                     "negative regulation of interferon-gamma secretion"
```

```
##                      "negative regulation of cholesterol import"
##                      "positive regulation of fever generation by positive regulation of prostaglandin s
##                      "positive regulation of ERK1 and ERK2 cascade via TNFSF11-mediated signaling"
##                      "regulation of fibroblast apoptotic process"
##                      "meiotic spindle assembly checkpoint"
##                      "Fas signaling pathway"
##                      "protein localization to meiotic spindle midzone"
##                      "regulation of transcription from RNA polymerase II promoter in response to stress"
##                      "enucleate erythrocyte development"
##                      "keratan sulfate metabolic process"
##                      "negative regulation of lymphocyte activation"
##                      "negative regulation of prolactin secretion"
##                      "mitochondrial L-ornithine transmembrane transport"
##                      "oligosaccharide biosynthetic process"
##                      "regulation of NIK/NF-kappaB signaling"
##                      "inner ear auditory receptor cell differentiation"
##                      "eye blink reflex"
##                      "regulation of mitotic spindle organization"
##                      "intestinal epithelial structure maintenance"
##                      "positive regulation of protein localization to basolateral plasma membrane"
##                      "dermatan sulfate proteoglycan biosynthetic process"
##                      "positive regulation of prostaglandin secretion involved in immune response"
##                      "positive regulation of myeloid leukocyte cytokine production involved in immune re
##                      "positive regulation of granulocyte chemotaxis"
##                      "regulation of proteinase activated receptor activity"
##                      "negative regulation of phospholipase C-activating G protein-coupled receptor signa
##                      "piRNA biosynthetic process"
##                      "regulation of neutrophil degranulation"
##                      "regulation of transcription by glucose"
##                      "sterol homeostasis"
##                      "negative regulation of protein acetylation"
##                      "cellular component assembly"
##                      "nerve growth factor processing"
##                      "histone H3-K4 acetylation"
##                      "negative regulation of ubiquitin-dependent protein catabolic process"
##                      "sphingosine biosynthetic process"
##                      "positive regulation of type 2 immune response"
##                      "negative regulation of heart induction by canonical Wnt signaling pathway"
##                      "phosphatidylserine biosynthetic process"
##                      "acyl carnitine transport"
##                      "Wnt signaling pathway involved in forebrain neuroblast division"
##                      "olfactory placode formation"
##                      "positive regulation of mesodermal cell fate specification"
##                      "endodermal digestive tract morphogenesis"
##                      "calcium ion transmembrane transport via low voltage-gated calcium channel"
##                      "positive regulation of canonical Wnt signaling pathway involved in controlling typ
##                      "peptidyl-L-cysteine S-palmitoylation"
##                      "regulation of opioid receptor signaling pathway"
##                      "opsonization"
##                      "negative regulation of kinase activity"
##                      "cellular response to high light intensity"
##                      "retinal rod cell apoptotic process"
##                      "positive regulation of miRNA metabolic process"
##                      "fever generation"
```

```
##                     "regulation of sister chromatid cohesion"
##                     "response to fructose"
##                     "positive regulation of epithelial cell migration"
##                     "ammonium transport"
##                     "elastin metabolic process"
##                     "cerebral cortex tangential migration"
##                     "regulation of ion transmembrane transporter activity"
##                     "activation of NF-kappaB-inducing kinase activity"
##                     "compartment pattern specification"
##                     "hair cell differentiation"
##                     "chemorepulsion involved in postnatal olfactory bulb interneuron migration"
##                     "endoderm formation"
##                     "embryonic viscerocranium morphogenesis"
##                     "positive regulation of interferon-gamma-mediated signaling pathway"
##                     "negative regulation of cell-cell adhesion mediated by cadherin"
##                     "biphenyl metabolic process"
##                     "specification of axis polarity"
##                     "positive regulation of testosterone secretion"
##                     "renal sodium ion transport"
##                     "small GTPase mediated signal transduction"
##                     "regulation of sodium:proton antiporter activity"
##                     "glutathione transport"
##                     "cellular response to gonadotropin-releasing hormone"
##                     "renal phosphate ion absorption"
##                     "negative regulation of cyclin-dependent protein kinase activity"
##                     "negative regulation of cGMP-mediated signaling"
##                     "positive regulation of sequestering of triglyceride"
##                     "tissue morphogenesis"
##                     "negative regulation of activation-induced cell death of T cells"
##                     "modification of dendritic spine"
##                     "cytidine deamination"
##                     "cellular response to zinc ion"
##                     "histone H3-K27 demethylation"
##                     "mechanosensory behavior"
##                     "anatomical structure morphogenesis"
##                     "regulation of dendritic cell cytokine production"
##                     "positive regulation of type III interferon production"
##                     "bone growth"
##                     "positive regulation of protein import into mitochondrial outer membrane"
##                     "negative regulation of chaperone-mediated protein folding"
##                     "negative regulation of cytokinesis"
##                     "positive regulation of establishment of T cell polarity"
##                     "photoreactive repair"
##                     "regulation of sodium-dependent phosphate transport"
##                     "ganglioside catabolic process"
##                     "response to human chorionic gonadotropin"
##                     "cellular response to thyroxine stimulus"
##                     "regulation of behavioral fear response"
##                     "very long-chain fatty acid metabolic process"
##                     "apoptotic nuclear changes"
##                     "coronary vasculature morphogenesis"
##                     "regulation of blood volume by renal aldosterone"
##                     "female somatic sex determination"
##                     "regulation of intracellular protein transport"
```

```
##                      "granulosa cell differentiation"
##                      "negative regulation of leukocyte adhesion to arterial endothelial cell"
##                      "mesenchymal cell differentiation involved in kidney development"
##                      "exonucleolytic trimming to generate mature 3'-end of 5.8S rRNA from tricistronic
##                      "alpha-tubulin acetylation"
##                      "sensory system development"
##                      "positive regulation of tolerance induction to tumor cell"
##                      "regulation of synaptic growth at neuromuscular junction"
##                      "fatty acid omega-oxidation"
##                      "forebrain cell migration"
##                      "regulation of intracellular cholesterol transport"
##                      "positive regulation of MDA-5 signaling pathway"
##                      "negative regulation of tumor necrosis factor superfamily cytokine production"
##                      "regulation of activated CD4-positive, alpha-beta T cell apoptotic process"
##                      "positive regulation of activated CD8-positive, alpha-beta T cell apoptotic proces
##                      "inositol phosphate biosynthetic process"
##                      "negative regulation of intrinsic apoptotic signaling pathway in response to DNA d
##                      "pulmonary myocardium development"
##                      "marginal zone B cell differentiation"
##                      "positive regulation of dendritic cell cytokine production"
##                      "detection of muramyl dipeptide"
##                      "interleukin-4 production"
##                      "positive regulation of gamma-delta T cell activation"
##                      "macrophage homeostasis"
##                      "regulation of neurotransmitter receptor activity"
##                      "N-acetylneuraminate metabolic process"
##                      "regulation of skeletal muscle contraction by regulation of release of sequestered
##                      "positive regulation of interleukin-15 production"
##                      "TIRAP-dependent toll-like receptor 4 signaling pathway"
##                      "bundle of His cell action potential"
##                      "glycosylceramide catabolic process"
##                      "regulation of postsynapse organization"
##                      "negative regulation of leukocyte apoptotic process"
##                      "protein localization to ciliary transition zone"
##                      "facial nerve morphogenesis"
##                      "smooth muscle cell chemotaxis"
##                      "polysaccharide assembly with MHC class II protein complex"
##                      "termination of RNA polymerase III transcription"
##                      "proline transport"
##                      "aromatic compound catabolic process"
##                      "melanosome localization"
##                      "tRNA 3'-trailer cleavage"
##                      "regulation of eIF2 alpha phosphorylation by amino acid starvation"
##                      "positive regulation of translational initiation in response to starvation"
##                      "endoplasmic reticulum tubular network organization"
##                      "short-term synaptic potentiation"
##                      "regulation of cell fate commitment"
##                      "positive regulation of nuclear receptor transcription coactivator activity"
##                      "B-1 B cell differentiation"
##                      "cellular response to macrophage colony-stimulating factor stimulus"
##                      "negative regulation of interferon-alpha production"
##                      "cell migration involved in endocardial cushion formation"
##                      "regulation of Rap protein signal transduction"
##                      "regulation of interleukin-5 production"
```

```
##                     "positive regulation of tissue remodeling"
##                     "negative regulation of lipid metabolic process"
##                     "cellular response to luteinizing hormone stimulus"
##                     "negative regulation of receptor localization to synapse"
##                     "negative regulation of anterograde synaptic vesicle transport"
##                     "astrocyte activation involved in immune response"
##                     "oligodendrocyte cell fate specification"
##                     "vascular wound healing"
##                     "negative regulation of centriole elongation"
##                     "morphogenesis of a branching structure"
##                     "skeletal myofibril assembly"
##                     "phagolysosome assembly involved in apoptotic cell clearance"
##                     "negative regulation of hepatocyte apoptotic process"
##                     "cardiac muscle cell action potential"
##                     "regulation of defense response to bacterium"
##                     "negative regulation of embryonic development"
##                     "L-histidine transmembrane transport"
##                     "negative regulation of synaptic vesicle exocytosis"
##                     "immunoglobulin transcytosis in epithelial cells mediated by polymeric immunoglobul
##                     "cell migration involved in vasculogenesis"
##                     "positive regulation of B cell differentiation"
##                     "mitochondrial large ribosomal subunit assembly"
##                     "cellular response to sodium arsenite"
##                     "histone H2A-K13 ubiquitination"
##                     "histone H2A-K15 ubiquitination"
##                     "renal tubule morphogenesis"
##                     "regulation of transcription from RNA polymerase II promoter in response to arseni
##                     "positive regulation of proteasomal ubiquitin-dependent protein catabolic process
##                     "negative regulation of extracellular matrix disassembly"
##                     "mesonephric duct development"
##                     "isopentenyl diphosphate biosynthetic process"
##                     "dimethylallyl diphosphate biosynthetic process"
##                     "dichotomous subdivision of terminal units involved in mammary gland duct morphoge
##                     "cellular response to leptomycin B"
##                     "negative regulation of T cell differentiation in thymus"
##                     "histone H4-K20 methylation"
##                     "low-density lipoprotein particle receptor catabolic process"
##                     "muscle organ morphogenesis"
##                     "urothelial cell proliferation"
##                     "positive regulation of urothelial cell proliferation"
##                     "bronchiole morphogenesis"
##                     "mesenchymal-epithelial cell signaling involved in lung development"
##                     "semicircular canal fusion"
##                     "lung proximal/distal axis specification"
##                     "memory T cell proliferation"
##                     "positive regulation of hair follicle cell proliferation"
##                     "positive regulation of type B pancreatic cell apoptotic process"
##                     "negative regulation of asymmetric cell division"
##                     "pre-B cell differentiation"
##                     "alveolar secondary septum development"
##                     "AV node cell action potential"
##                     "respiratory basal cell differentiation"
##                     "ureteric bud morphogenesis"
##                     "regulation of bile acid metabolic process"
```

```
##                         "regulation of semaphorin-plexin signaling pathway"
##                         "oligosaccharide-lipid intermediate biosynthetic process"
##                         "multicellular organismal iron ion homeostasis"
##                         "error-free translesion synthesis"
##                         "melanocyte proliferation"
##                         "positive regulation of ERAD pathway"
##                         "Tie signaling pathway"
##                         "positive regulation of memory T cell differentiation"
##                         "basement membrane organization"
##                         "positive regulation of triglyceride catabolic process"
##                         "regulation of protein sumoylation"
##                         "glomerular mesangial cell proliferation"
##                         "positive regulation of glomerular metanephric mesangial cell proliferation"
##                         "cellular response to interleukin-8"
##                         "embryonic limb morphogenesis"
##                         "meiotic sister chromatid cohesion, centromeric"
##                         "nuclear-transcribed mRNA catabolic process, 3'-5' exonucleolytic nonsense-mediate
##                         "innate vocalization behavior"
##                         "tRNA catabolic process"
##                         "negative regulation of cell migration involved in sprouting angiogenesis"
##                         "negative regulation of forebrain neuron differentiation"
##                         "aorta smooth muscle tissue morphogenesis"
##                         "positive regulation of DNA damage checkpoint"
##                         "positive regulation of skeletal muscle cell differentiation"
##                         "Purkinje myocyte development"
##                         "negative regulation of peptidase activity"
##                         "positive regulation of histone phosphorylation"
##                         "regulation of water loss via skin"
##                         "inactivation of X chromosome by heterochromatin assembly"
##                         "inactivation of X chromosome by DNA methylation"
##                         "heterochromatin organization involved in chromatin silencing"
##                         "cell-cell signaling involved in mammary gland development"
##                         "positive regulation of white fat cell proliferation"
##                         "regulation of nucleus size"
##                         "determination of left/right asymmetry in lateral mesoderm"
##                         "synaptic transmission, cholinergic"
##                         "tongue morphogenesis"
##                         "heparan sulfate proteoglycan catabolic process"
##                         "telomere maintenance in response to DNA damage"
##                         "glomerular visceral epithelial cell development"
##                         "negative regulation of methylation-dependent chromatin silencing"
##                         "primary palate development"
##                         "iron ion transport"
##                         "positive regulation of polarized epithelial cell differentiation"
##                         "cloaca development"
##                         "pronephric nephron tubule morphogenesis"
##                         "pronephric duct morphogenesis"
##                         "Kupffer's vesicle development"
##                         "negative regulation of photoreceptor cell differentiation"
##                         "sphingosine metabolic process"
##                         "negative regulation of lipid storage"
##                         "positive regulation of cGMP-mediated signaling"
##                         "cellular response to cocaine"
##                         "trans-synaptic signaling by neuropeptide, modulating synaptic transmission"
```

```
##                     "spinal cord motor neuron cell fate specification"
##                     "autocrine signaling"
##                     "sequestering of TGFbeta in extracellular matrix"
##                     "polar body extrusion after meiotic divisions"
##                     "atrioventricular node cell development"
##                     "formin-nucleated actin cable assembly"
##                     "eukaryotic translation initiation factor 2 complex assembly"
##                     "negative regulation of neutrophil differentiation"
##                     "mitotic telomere maintenance via semi-conservative replication"
##                     "dsRNA transport"
##                     "pigment granule aggregation in cell center"
##                     "mesenchymal cell proliferation involved in ureteric bud development"
##                     "DNA strand resection involved in replication fork processing"
##                     "positive regulation of anterograde dense core granule transport"
##                     "vascular endothelial growth factor production"
##                     "hypermethylation of CpG island"
##                     "embryonic hindgut morphogenesis"
##                     "intestinal epithelial cell development"
##                     "glomerular endothelium development"
##                     "negative regulation of oxidative stress-induced neuron death"
##                     "negative regulation of cytolysis by symbiont of host cells"
##                     "cytolysis in other organism involved in symbiotic interaction"
##                     "negative regulation of motor neuron apoptotic process"
##                     "regulation of transcription involved in G2/M transition of mitotic cell cycle"
##                     "tRNA exon ligation utilizing 2',3' cyclic phosphate of 5'-exon as source of linkag
##                     "keratinocyte activation"
##                     "protein transport into plasma membrane raft"
##                     "trophectodermal cell differentiation"
##                     "neuronal-glial interaction involved in cerebral cortex radial glia guided migratio
##                     "development of primary sexual characteristics"
##                     "regulation of neuronal action potential"
##                     "presynaptic dense core vesicle exocytosis"
##                     "fibroblast growth factor receptor signaling pathway involved in negative regulatio
##                     "fibroblast growth factor receptor signaling pathway involved in hemopoiesis"
##                     "fibroblast growth factor receptor signaling pathway involved in positive regulatio
##                     "lateral sprouting from an epithelium"
##                     "siRNA loading onto RISC involved in RNA interference"
##                     "sensory perception of touch"
##                     "glycogen cell differentiation involved in embryonic placenta development"
##                     "guanylate kinase-associated protein clustering"
##                     "negative regulation of protein kinase activity by protein phosphorylation"
##                     "enzyme-directed rRNA 2'-O-methylation"
##                     "RNA localization"
##                     "fusion of sperm to egg plasma membrane involved in single fertilization"
##                     "cellular response to brain-derived neurotrophic factor stimulus"
##                     "DNA double-strand break processing involved in repair via single-strand annealing
##                     "dopamine catabolic process"
##                     "post-embryonic eye morphogenesis"
##                     "membrane raft polarization"
##                     "cell-cell adhesion involved in neuronal-glial interactions involved in cerebral co
##                     "interleukin-5-mediated signaling pathway"
##                     "regulation of ventricular cardiac muscle cell membrane repolarization"
##                     "humoral immune response"
##                     "nucleotide-binding oligomerization domain containing signaling pathway"
```

```
##                     "Golgi to plasma membrane CFTR protein transport"
##                     "regulation of response to reactive oxygen species"
##                     "positive regulation of opsonization"
##                     "regulation of telomere maintenance via telomere lengthening"
##                     "meiotic cell cycle checkpoint"
##                     "leukemia inhibitory factor signaling pathway"
##                     "hemolysis by symbiont of host erythrocytes"
##                     "optic placode formation involved in camera-type eye formation"
##                     "peptide antigen assembly with MHC class II protein complex"
##                     "leukocyte differentiation"
##                     "cyanate catabolic process"
##                     "trimming of terminal mannose on C branch"
##                     "centrosome separation"
##                     "negative regulation of dense core granule biogenesis"
##                     "negative regulation of mesenchymal stem cell differentiation"
##                     "negative regulation of amniotic stem cell differentiation"
##                     "specification of animal organ position"
##                     "regulated exocytosis"
##                     "entry of symbiont into host cell by promotion of host phagocytosis"
##                     "regulation of cilium beat frequency involved in ciliary motility"
##                     "kidney morphogenesis"
##                     "regulation of T cell antigen processing and presentation"
##                     "cotranslational protein targeting to membrane"
##                     "embryonic axis specification"
##                     "positive regulation of protein tyrosine kinase activity"
##                     "platelet-derived growth factor receptor-alpha signaling pathway"
##                     "ureter development"
##                     "negative regulation of endoplasmic reticulum stress-induced neuron intrinsic apop
##                     "negative regulation of cellular response to transforming growth factor beta stimu
##                     "regulation of mesenchymal stem cell differentiation"
##                     "sperm axoneme assembly"
##                     "mesodermal cell migration"
##                     "pallium development"
##                     "positive regulation of protein complex assembly"
##                     "cell migration involved in mesendoderm migration"
##                     "regulation of calcium ion transmembrane transport via high voltage-gated calcium
##                     "regulation of muscle filament sliding"
##                     "cellular polysaccharide biosynthetic process"
##                     "temperature homeostasis"
##                     "tRNA N2-guanine methylation"
##                     "negative regulation of apoptotic process"
##                     "regulation of filopodium assembly"
##                     "metanephric mesenchymal cell proliferation involved in metanephros development"
##                     "cellular response to cold"
##                     "astrocyte fate commitment"
##                     "positive regulation of oxidative stress-induced neuron intrinsic apoptotic signali
##                     "negative regulation of eye photoreceptor cell development"
##                     "retinal cone cell apoptotic process"
##                     "negative regulation of alpha-beta T cell differentiation"
##                     "negative regulation of telomeric DNA binding"
##                     "cellular response to vitamin"
##                     "protein sialylation"
##                     "negative regulation of histone H3-K9 acetylation"
##                     "auditory receptor cell fate determination"
```

```
##                 "positive regulation of protein complex disassembly"
##                 "antigen processing and presentation, endogenous lipid antigen via MHC class Ib"
##                 "apoptotic process involved in luteolysis"
##                 "adenylate cyclase-activating adrenergic receptor signaling pathway involved in po
##                 "negative regulation of double-strand break repair via single-strand annealing"
##                 "protein-containing complex localization"
##                 "canonical Wnt signaling pathway involved in cardiac muscle cell fate commitment"
##                 "response to hydroxyurea"
##                 "response to actinomycin D"
##                 "response to dithiothreitol"
##                 "response to anisomycin"
##                 "regulation of postsynaptic membrane neurotransmitter receptor levels"
##                 "very-low-density lipoprotein particle remodeling"
##                 "peptidyl-aspartic acid hydroxylation"
##                 "peptidyl-lysine hydroxylation to 5-hydroxy-L-lysine"
##                 "regulation of sister chromatid segregation"
##                 "histone H3-R2 demethylation"
##                 "histone H4-R3 demethylation"
##                 "transmembrane receptor protein tyrosine phosphatase signaling pathway"
##                 "release from viral latency"
##                 "MDA-5 signaling pathway"
##                 "oncogene-induced cell senescence"
##                 "ribonucleotide metabolic process"
##                 "telomere maintenance via telomere lengthening"
##                 "locomotion"
##                 "fatty acid homeostasis"
##                 "positive regulation of tumor necrosis factor secretion"
##                 "double-strand break repair involved in meiotic recombination"
##                 "cellular aromatic compound metabolic process"
##                 "detection of molecule of bacterial origin"
##                 "intermediate filament polymerization or depolymerization"
##                 "cardiac muscle cell myoblast differentiation"
##                 "response to sodium arsenite"
##                 "protein localization to juxtaparanode region of axon"
##                 "extrinsic apoptotic signaling pathway in absence of ligand"
##                 "atrial septum secundum morphogenesis"
##                 "apical constriction"
##                 "homoiothermy"
##                 "positive regulation of delayed rectifier potassium channel activity"
##                 "negative regulation of spontaneous neurotransmitter secretion"
##                 "positive regulation of 1-phosphatidylinositol 4-kinase activity"
##                 "positive regulation of respiratory burst"
##                 "dUMP biosynthetic process"
##                 "tumor necrosis factor-mediated signaling pathway"
##                 "polyadenylation-dependent snoRNA 3'-end processing"
##                 "negative regulation of CD8-positive, alpha-beta T cell activation"
##                 "negative regulation of negative chemotaxis"
##                 "negative regulation of pro-B cell differentiation"
##                 "positive regulation of antigen receptor-mediated signaling pathway"
##                 "regulation of angiotensin levels in blood"
##                 "opsin transport"
##                 "proximal tubule development"
##                 "membrane depolarization during bundle of His cell action potential"
##                 "cardiac cell fate determination"
```

```
##                     "respiratory burst involved in defense response"
##                     "dGTP catabolic process"
##                     "interleukin-17 secretion"
##                     "medium-chain fatty acid transport"
##                     "regulation of organelle organization"
##                     "T cell homeostasis"
##                     "regulation of inner ear auditory receptor cell differentiation"
##                     "cytosol to ER transport"
##                     "maintenance of presynaptic active zone structure"
##                     "leukocyte activation involved in immune response"
##                     "antigen processing and presentation of peptide or polysaccharide antigen via MHC c
##                     "phosphatidylserine acyl-chain remodeling"
##                     "negative regulation of cell adhesion involved in substrate-bound cell migration"
##                     "positive regulation of erythrocyte aggregation"
##                     "CD4-positive, alpha-beta T cell differentiation"
##                     "negative regulation of histone deacetylation"
##                     "musculoskeletal movement"
##                     "spermatogonial cell division"
##                     "positive regulation of skeletal muscle fiber development"
##                     "modification by host of symbiont morphology or physiology via secreted substance"
##                     "interaction with symbiont via secreted substance involved in symbiotic interaction
##                     "cell-cell signaling via exosome"
##                     "positive regulation of receptor binding"
##                     "regulation of transcription elongation from RNA polymerase II promoter"
##                     "positive regulation of synaptic growth at neuromuscular junction"
##                     "negative regulation of mitochondrial calcium ion concentration"
##                     "negative regulation of voltage-gated potassium channel activity"
##                     "peptidyl-threonine phosphorylation"
##                     "sebaceous gland cell differentiation"
##                     "autophagy of peroxisome"
##                     "lipid modification"
##                     "negative regulation of glucocorticoid biosynthetic process"
##                     "positive regulation of striated muscle contraction"
##                     "negative regulation of DNA recombination at telomere"
##                     "response to prolactin"
##                     "adherens junction maintenance"
##                     "natural killer cell chemotaxis"
##                     "positive regulation of interleukin-1 beta biosynthetic process"
##                     "positive regulation of high-density lipoprotein particle assembly"
##                     "positive regulation of secretion of lysosomal enzymes"
##                     "regulation of T cell receptor signaling pathway"
##                     "negative regulation of mesenchymal cell apoptotic process"
##                     "loop of Henle development"
##                     "myeloid cell differentiation"
##                     "cytokine secretion involved in immune response"
##                     "ripoptosome assembly involved in necroptotic process"
##                     "nucleotide-binding oligomerization domain containing 2 signaling pathway"
##                     "protein transport along microtubule"
##                     "inactivation of MAPK activity involved in osmosensory signaling pathway"
##                     "morphogenesis of an epithelial sheet"
##                     "smoothened signaling pathway involved in regulation of secondary heart field cardi
##                     "establishment of viral latency"
##                     "floor plate development"
##                     "regulation of MyD88-independent toll-like receptor signaling pathway"
```

```
##                    "positive regulation of interleukin-8 biosynthetic process"
##                    "prostate gland stromal morphogenesis"
##                    "regulation of smoothened signaling pathway involved in dorsal/ventral neural tube
##                    "regulation of heart rate"
##                    "prechordal plate formation"
##                    "midbrain-hindbrain boundary initiation"
##                    "negative regulation of apoptotic process involved in outflow tract morphogenesis"
##                    "blood coagulation, intrinsic pathway"
##                    "viral translation"
##                    "induction by virus of host autophagy"
##                    "negative regulation of striated muscle cell differentiation"
##                    "fasciculation of motor neuron axon"
##                    "negative regulation of interferon-alpha biosynthetic process"
##                    "positive regulation of DNA demethylation"
##                    "positive regulation of hh target transcription factor activity"
##                    "membrane depolarization during atrial cardiac muscle cell action potential"
##                    "regulation of protein localization to cell surface"
##                    "regulation of intestinal cholesterol absorption"
##                    "inner ear receptor cell development"
##                    "podosome assembly"
##                    "guanosine metabolic process"
##                    "cell surface bile acid receptor signaling pathway"
##                    "dGTP metabolic process"
##                    "purine deoxyribonucleoside metabolic process"
##                    "negative regulation of endothelial cell chemotaxis"
##                    "ovarian follicle rupture"
##                    "synaptic vesicle priming"
##                    "regulation of cellular protein localization"
##                    "organelle localization"
##                    "regulation of synaptic activity"
##                    "organelle assembly"
##                    "positive regulation of receptor localization to synapse"
##                    "positive regulation of regulated secretory pathway"
##                    "cytokine production involved in immune response"
##                    "smooth muscle cell migration"
##                    "putrescine biosynthetic process from ornithine"
##                    "regulation of autophagosome size"
##                    "cellular cation homeostasis"
##                    "extracellular exosome biogenesis"
##                    "polyamine transmembrane transport"
##                    "peptidyl-aspartic acid autophosphorylation"
##                    "somatic diversification of immune receptors via somatic mutation"
##                    "negative regulation of RNA interference"
##                    "positive regulation of hair follicle development"
##                    "muscle tissue morphogenesis"
##                    "terminal button organization"
##                    "positive regulation of chemokine (C-X-C motif) ligand 2 production"
##                    "rRNA export from nucleus"
##                    "positive regulation of digestive system process"
##                    "negative regulation of DNA-templated transcription, initiation"
##                    "cerebellar granular layer structural organization"
##                    "negative regulation of interleukin-1 production"
##                    "protein localization to endosome"
##                    "positive regulation of interleukin-2 biosynthetic process"
```

```
##                     "membrane repolarization during atrial cardiac muscle cell action potential"
##                     "negative regulation of histone deacetylase activity"
##                     "regulation of cell maturation"
##                     "plasma cell differentiation"
##                     "COP9 signalosome assembly"
##                     "luteinizing hormone secretion"
##                     "retrograde trans-synaptic signaling by trans-synaptic protein complex"
##                     "cellular response to vasopressin"
##                     "O-glycan processing, core 1"
##                     "negative regulation of cellular respiration"
##                     "establishment or maintenance of epithelial cell apical/basal polarity"
##                     "actin filament bundle assembly"
##                     "negative regulation of phosphatidylinositol-3,4,5-trisphosphate 5-phosphatase act:
##                     "actin filament-based movement"
##                     "acetate ester transport"
##                     "kidney epithelium development"
##                     "folic acid transport"
##                     "regulation of actin phosphorylation"
##                     "pharynx development"
##                     "box H/ACA snoRNA metabolic process"
##                     "canonical Wnt signaling pathway involved in neural crest cell differentiation"
##                     "striated muscle cell development"
##                     "negative regulation of mature B cell apoptotic process"
##                     "DNA replication preinitiation complex assembly"
##                     "negative regulation of protein tyrosine phosphatase activity"
##                     "N-terminal protein myristoylation"
##                     "epithelial cell differentiation involved in mammary gland alveolus development"
##                     "activation of meiosis"
##                     "positive regulation of mesenchymal cell apoptotic process"
##                     "swimming behavior"
##                     "co-translational protein modification"
##                     "membrane depolarization during AV node cell action potential"
##                     "positive regulation of isotype switching"
##                     "positive regulation of voltage-gated calcium channel activity"
##                     "positive regulation of endoplasmic reticulum unfolded protein response"
##                     "nicotinamide riboside catabolic process"
##                     "ear morphogenesis"
##                     "stem cell development"
##                     "regulation of Fc receptor mediated stimulatory signaling pathway"
##                     "arterial endothelial cell differentiation"
##                     "regulation of glycolytic process by positive regulation of transcription from RNA
##                     "regulation of cellular ketone metabolic process by positive regulation of transcr:
##                     "retina layer formation"
##                     "regulation of hormone biosynthetic process"
##                     "positive regulation of collateral sprouting in absence of injury"
##                     "regulation of striated muscle cell differentiation"
##                     "negative regulation of SMAD protein complex assembly"
##                     "reproductive structure development"
##                     "regulation of astrocyte differentiation"
##                     "protein tetramerization"
##                     "negative regulation of reactive oxygen species biosynthetic process"
##                     "glutamine catabolic process"
##                     "G0 to G1 transition"
##                     "positive regulation of protein catabolic process in the vacuole"
```

```
##                    "negative regulation of lymphocyte migration"
##                    "response to bile acid"
##                    "protein import into nucleus, translocation"
##                    "negative regulation of bile acid biosynthetic process"
##                    "abscission"
##                    "fatty acid elongation, saturated fatty acid"
##                    "superior olivary nucleus maturation"
##                    "regulation of muscle filament sliding speed"
##                    "fatty acid elongation, monounsaturated fatty acid"
##                    "fatty acid elongation, polyunsaturated fatty acid"
##                    "ventricular compact myocardium morphogenesis"
##                    "regulation of viral transcription"
##                    "regulation of production of siRNA involved in RNA interference"
##                    "regulation of production of miRNAs involved in gene silencing by miRNA"
##                    "ubiquitin recycling"
##                    "interferon-gamma production"
##                    "cellular response to peptidoglycan"
##                    "cellular response to reactive nitrogen species"
##                    "manganese ion transport"
##                    "positive regulation of cell-substrate adhesion"
##                    "regulation of postsynaptic cytosolic calcium ion concentration"
##                    "negative regulation of telomere maintenance via telomere lengthening"
##                    "regulation of DNA-templated transcription, elongation"
##                    "regulation of protein phosphorylation"
##                    "negative regulation of nitric oxide mediated signal transduction"
##                    "growth hormone secretion"
##                    "positive regulation of non-motile cilium assembly"
##                    "immunoglobulin production involved in immunoglobulin mediated immune response"
##                    "zonula adherens maintenance"
##                    "negative regulation of glomerular mesangial cell proliferation"
##                    "interleukin-6 biosynthetic process"
##                    "response to environmental enrichment"
##                    "desensitization of G protein-coupled receptor signaling pathway"
##                    "gastric inhibitory peptide signaling pathway"
##                    "lipoxygenase pathway"
##                    "positive regulation of exit from mitosis"
##                    "negative regulation of chondrocyte development"
##                    "positive regulation of Notch signaling pathway involved in heart induction"
##                    "positive regulation of metanephric ureteric bud development"
##                    "metanephros morphogenesis"
##                    "positive regulation of microglial cell activation"
##                    "visceral muscle development"
##                    "negative regulation of natural killer cell activation"
##                    "positive regulation of interleukin-10 biosynthetic process"
##                    "nuclear pore complex assembly"
##                    "positive regulation of stem cell population maintenance"
##                    "endochondral bone growth"
##                    "positive regulation of ion transmembrane transport"
##                    "epithelial-mesenchymal signaling involved in prostate gland development"
##                    "negative regulation of tubulin deacetylation"
##                    "limb morphogenesis"
##                    "epinephrine secretion"
##                    "T cell mediated cytotoxicity"
##                    "store-operated calcium entry"
```

```
##                     "interleukin-2 biosynthetic process"
##                     "intestinal cholesterol absorption"
##                     "vesicle targeting, trans-Golgi to periciliary membrane compartment"
##                     "regulation of NMDA receptor activity"
##                     "glomerular filtration"
##                     "nuclear histone mRNA catabolic process"
##                     "oncostatin-M-mediated signaling pathway"
##                     "forebrain neuroblast division"
##                     "response to nitrosative stress"
##                     "positive regulation of cardiac neural crest cell migration involved in outflow tr
##                     "glomerulus development"
##                     "positive regulation of vascular wound healing"
##                     "glycerophospholipid biosynthetic process"
##                     "trabecular meshwork development"
##                     "deltoid tuberosity development"
##                     "modulation by host of viral RNA genome replication"
##                     "transcriptional start site selection at RNA polymerase II promoter"
##                     "thyroid hormone mediated signaling pathway"
##                     "reproductive process"
##                     "protein localization to nucleus"
##                     "cellular response to dopamine"
##                     "RNA polymerase II core complex assembly"
##                     "cellular response to laminar fluid shear stress"
##                     "positive regulation of G2/MI transition of meiotic cell cycle"
##                     "midbrain-hindbrain boundary morphogenesis"
##                     "positive regulation of epinephrine secretion"
##                     "phosphatidylinositol dephosphorylation"
##                     "neuron projection maintenance"
##                     "exocyst assembly"
##                     "interleukin-6 production"
##                     "embryonic nail plate morphogenesis"
##                     "tear secretion"
##                     "positive regulation of ureteric bud formation"
##                     "germ-line stem cell population maintenance"
##                     "leading strand elongation"
##                     "DNA-templated transcription, elongation"
##                     "deoxyribonucleotide catabolic process"
##                     "positive regulation of ubiquitin-dependent endocytosis"
##                     "receptor guanylyl cyclase signaling pathway"
##                     "DNA cytosine deamination"
##                     "protein kinase D signaling"
##                     "response to thyroid hormone"
##                     "positive regulation of protein kinase D signaling"
##                     "cell projection organization"
##                     "equilibrioception"
##                     "ganglion development"
##                     "ventral midline development"
##                     "negative regulation of protein localization to lysosome"
##                     "positive regulation of amyloid precursor protein catabolic process"
##                     "regulation of rRNA processing"
##                     "endocardial cushion development"
##                     "base conversion or substitution editing"
##                     "regulation of myosin II filament organization"
##                     "regulation of type B pancreatic cell proliferation"
```

```
##                      "positive regulation of artery morphogenesis"
##                      "coronary vein morphogenesis"
##                      "regulation of heart growth"
##                      "negative regulation of regulatory T cell differentiation"
##                      "positive regulation of keratinocyte differentiation"
##                      "PMA-inducible membrane protein ectodomain proteolysis"
##                      "negative regulation of neurogenesis"
##                      "intracellular protein transmembrane transport"
##                      "regulation of cGMP-mediated signaling"
##                      "regulation of inositol trisphosphate biosynthetic process"
##                      "'de novo' cotranslational protein folding"
##                      "mesenchymal cell development"
##                      "meiotic DNA integrity checkpoint"
##                      "platelet aggregation"
##                      "protein localization to cytosolic proteasome complex involved in ERAD pathway"
##                      "vesicle fusion with endoplasmic reticulum-Golgi intermediate compartment (ERGIC) r
##                      "negative regulation of Wnt signaling pathway involved in heart development"
##                      "oligodendrocyte development"
##                      "negative regulation of receptor binding"
##                      "protein oxidation"
##                      "response to stimulus"
##                      "venous blood vessel development"
##                      "regulation of cellular response to drug"
##                      "cervix development"
##                      "histone H3-K36 methylation"
##                      "translesion synthesis"
##                      "positive regulation of cellular protein catabolic process"
##                      "isopentenyl diphosphate biosynthetic process, mevalonate pathway"
##                      "positive regulation of chemokine (C-X-C motif) ligand 1 production"
##                      "type IV hypersensitivity"
##                      "pro-T cell differentiation"
##                      "SRP-dependent cotranslational protein targeting to membrane, translocation"
##                      "parathyroid hormone secretion"
##                      "low-density lipoprotein particle receptor biosynthetic process"
##                      "regulation of cholesterol transporter activity"
##                      "regulation of histone H3-K27 methylation"
##                      "negative regulation of blood vessel endothelial cell differentiation"
##                      "negative regulation of pancreatic stellate cell proliferation"
##                      "negative regulation of cell proliferation involved in mesonephros development"
##                      "regulation of cellular response to X-ray"
##                      "negative regulation of fibroblast growth factor receptor signaling pathway involve
##                      "negative regulation of glial cell-derived neurotrophic factor receptor signaling p
##                      "metencephalon development"
##                      "tube development"
##                      "viral mRNA export from host cell nucleus"
##                      "regulation of protein monoubiquitination"
##                      "epithelial cell proliferation involved in lung morphogenesis"
##                      "negative regulation of thyroid hormone receptor activity"
##                      "hyaluronan metabolic process"
##                      "chromosome organization involved in meiotic cell cycle"
##                      "regulation of axon guidance"
##                      "peptidyl-glutamine methylation"
##                      "CD4-positive, alpha-beta T cell cytokine production"
##                      "negative regulation of complement activation"
```

```
##                      "rRNA (guanine-N7)-methylation"
##                      "positive regulation of CD4-positive, alpha-beta T cell activation"
##                      "cellular response to fluoride"
##                      "nuclear-transcribed mRNA catabolic process, deadenylation-dependent decay"
##                      "mammary duct terminal end bud growth"
##                      "positive regulation of homophilic cell adhesion"
##                      "translational attenuation"
##                      "neuromuscular process"
##                      "leukotriene biosynthetic process"
##                      "tRNA wobble base 5-methoxycarbonylmethyl-2-thiouridinylation"
##                      "regulation of nitric oxide mediated signal transduction"
##                      "zymogen activation"
##                      "spliceosomal complex disassembly"
##                      "BMP signaling pathway involved in heart induction"
##                      "response to UV-C"
##                      "cerebral cortex GABAergic interneuron development"
##                      "trans-synaptic signaling by BDNF, modulating synaptic transmission"
##                      "detection of chemical stimulus involved in sensory perception of smell"
##                      "CAMKK-AMPK signaling cascade"
##                      "regulation of cytokine production involved in inflammatory response"
##                      "regulation of immunoglobulin production"
##                      "lymphatic endothelial cell differentiation"
##                      "positive regulation of connective tissue growth factor production"
##                      "positive regulation of mast cell chemotaxis"
##                      "negative regulation of protein localization to chromosome, telomeric region"
##                      "penetration of zona pellucida"
##                      "striated muscle atrophy"
##                      "mesenchymal cell proliferation involved in lung development"
##                      "thorax and anterior abdomen determination"
##                      "morphogenesis of a polarized epithelium"
##                      "toll-like receptor 7 signaling pathway"
##                      "myoblast development"
##                      "fructose 2,6-bisphosphate metabolic process"
##                      "histone H3-S28 phosphorylation"
##                      "acetaldehyde metabolic process"
##                      "negative regulation of transforming growth factor beta receptor signaling pathway"
##                      "cGMP metabolic process"
##                      "positive regulation of neuron projection arborization"
##                      "protein linear deubiquitination"
##                      "regulation of glial cell differentiation"
##                      "actin crosslink formation"
##                      "gamma-aminobutyric acid secretion, neurotransmission"
##                      "glutamate secretion, neurotransmission"
##                      "observational learning"
##                      "atrial cardiac muscle tissue morphogenesis"
##                      "positive regulation of chronic inflammatory response to non-antigenic stimulus"
##                      "regulation of natural killer cell mediated immunity"
##                      "positive regulation of TRAIL production"
##                      "CD8-positive, alpha-beta T cell activation"
##                      "peptidyl-serine dephosphorylation"
##                      "enzyme linked receptor protein signaling pathway"
##                      "suppression by virus of host type I interferon-mediated signaling pathway"
##                      "suppression by virus of host STAT1 activity"
##                      "suppression by virus of host STAT2 activity"
```

```
##                        "Golgi to plasma membrane protein transport"
##                        "atrial septum morphogenesis"
##                        "transmission of nerve impulse"
##                        "directional locomotion"
##                        "adult heart development"
##                        "ventricular system development"
##                        "lymphotoxin A biosynthetic process"
##                        "G protein-coupled receptor signaling pathway involved in heart process"
##                        "formation of cytoplasmic translation initiation complex"
##                        "growth factor dependent regulation of skeletal muscle satellite cell proliferatio
##                        "positive regulation of cell fate specification"
##                        "negative regulation of gastrin-induced gastric acid secretion"
##                        "subpallium development"
##                        "positive regulation of high voltage-gated calcium channel activity"
##                        "positive regulation of anoikis"
##                        "cardiac right ventricle formation"
##                        "toll-like receptor 4 signaling pathway"
##                        "epithelial-mesenchymal cell signaling"
##                        "regulation of intracellular steroid hormone receptor signaling pathway"
##                        "negative regulation of excitatory postsynaptic potential"
##                        "detection of biotic stimulus"
##                        "negative regulation of inner ear auditory receptor cell differentiation"
##                        "negative regulation of adenylate cyclase-inhibiting adrenergic receptor signaling
##                        "response to arachidonic acid"
##                        "retinoid metabolic process"
##                        "regulation of toll-like receptor 4 signaling pathway"
##                        "plasma membrane raft assembly"
##                        "UDP-glucosylation"
##                        "positive regulation of cell junction assembly"
##                        "negative regulation of very-low-density lipoprotein particle clearance"
##                        "midbrain dopaminergic neuron differentiation"
##                        "carnitine transport"
##                        "L-methionine salvage from S-adenosylmethionine"
##                        "negative regulation of lipoprotein metabolic process"
##                        "negative regulation of glucagon secretion"
##                        "regulation of response to oxidative stress"
##                        "peripheral T cell tolerance induction"
##                        "central tolerance induction to self antigen"
##                        "negative regulation of glycogen catabolic process"
##                        "alpha-beta T cell activation"
##                        "negative regulation of intrinsic apoptotic signaling pathway in response to osmot
##                        "regulation of thymocyte migration"
##                        "negative regulation of phospholipase activity"
##                        "rRNA pseudouridine synthesis"
##                        "snRNA pseudouridine synthesis"
##                        "positive regulation of cytokine activity"
##                        "basal dendrite development"
##                        "VEGF-activated neuropilin signaling pathway involved in axon guidance"
##                        "protein localization to early endosome"
##                        "regulation of dendritic spine maintenance"
##                        "negative regulation of dendritic spine maintenance"
##                        "otic placode development"
##                        "negative regulation of dendritic cell antigen processing and presentation"
##                        "phenol-containing compound metabolic process"
```

```
##                     "negative regulation of coagulation"
##                     "regulation of voltage-gated sodium channel activity"
##                     "neural fold elevation formation"
##                     "ammon gyrus development"
##                     "regulation of neuron migration"
##                     "response to interleukin-12"
##                     "lactose biosynthetic process"
##                     "response to rotenone"
##                     "protein localization to cell periphery"
##                     "positive regulation of aminoacyl-tRNA ligase activity"
##                     "inactivation of MAPKK activity"
##                     "positive regulation of locomotion involved in locomotory behavior"
##                     "neurotransmitter receptor transport, endosome to plasma membrane"
##                     "glomerular basement membrane development"
##                     "plasma lipoprotein particle clearance"
##                     "reverse cholesterol transport"
##                     "negative regulation of NMDA glutamate receptor activity"
##                     "positive regulation of mesenchymal cell proliferation involved in ureter developme
##                     "regulation of chromatin silencing at telomere"
##                     "vascular smooth muscle cell differentiation"
##                     "negative regulation of T cell activation"
##                     "mitotic DNA replication preinitiation complex assembly"
##                     "cellular response to molecule of bacterial origin"
##                     "carbohydrate catabolic process"
##                     "positive regulation of reactive oxygen species biosynthetic process"
##                     "negative regulation of alpha-beta T cell activation"
##                     "protein deubiquitination involved in ubiquitin-dependent protein catabolic proces
##                     "response to insulin-like growth factor stimulus"
##                     "negative regulation of cell growth involved in cardiac muscle cell development"
##                     "mineralocorticoid biosynthetic process"
##                     "uterus morphogenesis"
##                     "cellular ion homeostasis"
##                     "cellular response to sucrose stimulus"
##                     "ribosome-associated ubiquitin-dependent protein catabolic process"
##                     "regulation of cell fate specification"
##                     "regulation of cell activation"
##                     "eye photoreceptor cell differentiation"
##                     "post-embryonic forelimb morphogenesis"
##                     "negative regulation of telomeric RNA transcription from RNA pol II promoter"
##                     "positive regulation of telomeric RNA transcription from RNA pol II promoter"
##                     "negative regulation of insulin-like growth factor receptor signaling pathway"
##                     "regulation of T cell apoptotic process"
##                     "negative regulation of cell aging"
##                     "negative regulation of mammary gland epithelial cell proliferation"
##                     "positive regulation of protein transport"
##                     "convergent extension"
##                     "soft palate development"
##                     "meiotic spindle organization"
##                     "regulation of smooth muscle cell migration"
##                     "suppression by virus of host cysteine-type endopeptidase activity involved in apop
##                     "myotome development"
##                     "Purkinje myocyte to ventricular cardiac muscle cell signaling"
##                     "positive regulation of synaptic transmission, dopaminergic"
##                     "common myeloid progenitor cell proliferation"
```

```
##                       "hippocampus development"
##                       "neurotransmitter receptor transport"
##                       "lymph vessel development"
##                       "regulation of phosphorylation"
##                       "positive regulation of glucose transmembrane transport"
##                       "aflatoxin catabolic process"
##                       "epithelial to mesenchymal transition involved in cardiac fibroblast development"
##                       "cellular response to salt stress"
##                       "positive regulation of glutathione biosynthetic process"
##                       "stem cell differentiation"
##                       "regulation of platelet activation"
##                       "negative regulation of DNA binding"
##                       "protein localization to membrane raft"
##                       "glucocorticoid receptor signaling pathway"
##                       "maintenance of protein location"
##                       "regulation of T cell homeostatic proliferation"
##                       "positive regulation of retinoic acid receptor signaling pathway"
##                       "regulation of Fas signaling pathway"
##                       "initiation of primordial ovarian follicle growth"
##                       "deadenylation-independent decapping of nuclear-transcribed mRNA"
##                       "calcium-dependent activation of synaptic vesicle fusion"
##                       "negative regulation of cellular protein localization"
##                       "nephron development"
##                       "proteoglycan metabolic process"
##                       "negative regulation of mitophagy"
##                       "NADPH oxidation"
##                       "mitotic spindle elongation"
##                       "histone H3-K14 acetylation"
##                       "metanephric mesenchyme development"
##                       "establishment of epithelial cell polarity"
##                       "negative regulation of metalloendopeptidase activity involved in amyloid precurso:
##                       "IRES-dependent translational initiation of linear mRNA"
##                       "negative regulation of relaxation of cardiac muscle"
##                       "positive regulation of cell proliferation involved in heart morphogenesis"
##                       "corticospinal tract morphogenesis"
##                       "inductive cell-cell signaling"
##                       "vitamin K metabolic process"
##                       "muscle fiber development"
##                       "negative regulation of adenylate cyclase-activating adrenergic receptor signaling
##                       "associative learning"
##                       "positive regulation of stress-activated MAPK cascade"
##                       "exogenous drug catabolic process"
##                       "negative regulation of immunological synapse formation"
##                       "sensory perception of light stimulus"
##                       "negative regulation of nitric-oxide synthase biosynthetic process"
##                       "nephric duct formation"
##                       "positive regulation of fibroblast growth factor production"
##                       "negative regulation of chemokine (C-X-C motif) ligand 2 production"
##                       "pathogenesis"
##                       "proprioception"
##                       "cardiolipin metabolic process"
##                       "post-translational protein acetylation"
##                       "astrocyte activation"
##                       "regulation of spindle assembly"
```

```
##                     "post-embryonic hemopoiesis"
##                     "interleukin-3-mediated signaling pathway"
##                     "positive regulation of histone H3-K36 trimethylation"
##                     "cis assembly of pre-catalytic spliceosome"
##                     "NK T cell differentiation"
##                     "lung development"
##                     "spindle pole body duplication"
##                     "bone mineralization involved in bone maturation"
##                     "positive regulation of heart growth"
##                     "mitotic spindle pole body duplication"
##                     "myotube cell development"
##                     "negative regulation of RNA polymerase II transcriptional preinitiation complex as
##                     "cellular response to leucine"
##                     "positive regulation of protein localization to cilium"
##                     "positive regulation of endothelial cell differentiation"
##                     "positive regulation of DNA ligation"
##                     "regulation of vesicle-mediated transport"
##                     "D-aspartate import across plasma membrane"
##                     "L-glutamate import across plasma membrane"
##                     "positive regulation of protein ubiquitination"
##                     "maturation of LSU-rRNA from tricistronic rRNA transcript (SSU-rRNA, 5.8S rRNA, LSU
##                     "low-density lipoprotein particle mediated signaling"
##                     "regulation of vascular endothelial growth factor production"
##                     "interleukin-15-mediated signaling pathway"
##                     "amyloid-beta clearance"
##                     "tooth mineralization"
##                     "cardiac muscle thin filament assembly"
##                     "negative regulation of mitochondrion organization"
##                     "telomeric 3' overhang formation"
##                     "positive regulation of lipid transport"
##                     "nucleobase-containing small molecule catabolic process"
##                     "cellular stress response to acid chemical"
##                     "cap-independent translational initiation"
##                     "negative regulation of translation in response to stress"
##                     "establishment of mitotic sister chromatid cohesion"
##                     "protein localization to T-tubule"
##                     "atrial cardiac muscle cell to AV node cell communication"
##                     "SA node cell to atrial cardiac muscle cell communication"
##                     "positive regulation of calcium ion transmembrane transporter activity"
##                     "neurofilament bundle assembly"
##                     "negative regulation of JAK-STAT cascade"
##                     "mesenchyme development"
##                     "metanephric S-shaped body morphogenesis"
##                     "oocyte growth"
##                     "regulation of cytokine secretion"
##                     "AMP biosynthetic process"
##                     "cytokine biosynthetic process"
##                     "'de novo' AMP biosynthetic process"
##                     "paraxial mesodermal cell fate commitment"
##                     "endocardial cushion cell fate commitment"
##                     "cellular response to cisplatin"
##                     "positive regulation of determination of dorsal identity"
##                     "glycosphingolipid metabolic process"
##                     "androgen biosynthetic process"
```

```
##                     "thrombopoietin-mediated signaling pathway"
##                     "reticulophagy"
##                     "negative regulation of telomere maintenance via semi-conservative replication"
##                     "negative regulation of exonuclease activity"
##                     "negative regulation of telomeric D-loop disassembly"
##                     "regulation of terminal button organization"
##                     "positive regulation of cytoskeleton organization"
##                     "intrinsic apoptotic signaling pathway in response to nitrosative stress"
##                     "cardiac chamber development"
##                     "modulation by virus of host morphology or physiology"
##                     "ghrelin secretion"
##                     "regulation of hindgut contraction"
##                     "negative regulation of low-density lipoprotein particle receptor biosynthetic pro
##                     "response to monosodium glutamate"
##                     "actin cortical patch assembly"
##                     "actin cortical patch localization"
##                     "anterograde dendritic transport of neurotransmitter receptor complex"
##                     "regulation of viral budding via host ESCRT complex"
##                     "tooth eruption"
##                     "genitalia development"
##                     "modulation by symbiont of host I-kappaB kinase/NF-kappaB cascade"
##                     "postsynaptic density assembly"
##                     "negative regulation of cell cycle G2/M phase transition"
##                     "cytidine to uridine editing"
##                     "fatty acid oxidation"
##                     "endoplasmic reticulum membrane organization"
##                     "establishment of cell polarity"
##                     "postsynaptic modulation of chemical synaptic transmission"
##                     "positive regulation of organelle assembly"
##                     "positive regulation of phosphorylation of RNA polymerase II C-terminal domain ser
##                     "meiotic chromosome segregation"
##                     "positive regulation of transcription by glucose"
##                     "L-methionine salvage from methylthioadenosine"
##                     "regulation of SNARE complex assembly"
##                     "cardiac neural crest cell development involved in outflow tract morphogenesis"
##                     "regulation of glucose import in response to insulin stimulus"
##                     "post-embryonic camera-type eye development"
##                     "hard palate development"
##                     "regulation of timing of neuron differentiation"
##                     "abducens nerve formation"
##                     "T-helper cell differentiation"
##                     "response to sorbitol"
##                     "microtubule cytoskeleton organization involved in mitosis"
##                     "regulation of protein ADP-ribosylation"
##                     "memory T cell differentiation"
##                     "regulation of transcription involved in anterior/posterior axis specification"
##                     "positive regulation of transcription from RNA polymerase II promoter in response
##                     "membrane tubulation"
##                     "positive regulation of histamine secretion by mast cell"
##                     "positive regulation of spontaneous neurotransmitter secretion"
##                     "negative regulation of macropinocytosis"
##                     "positive regulation of mismatch repair"
##                     "regulation of synaptic vesicle endocytosis"
##                     "negative regulation of determination of dorsal identity"
```

```
##                    "regulation of transcription from RNA polymerase II promoter in response to hypoxia
##                    "positive regulation of thyroid hormone generation"
##                    "regulation of adenylate cyclase activity involved in G protein-coupled receptor s
##                    "regulation of ubiquitin-protein transferase activity"
##                    "corticotropin secretion"
##                    "negative regulation of proteolysis involved in cellular protein catabolic process
##                    "mesangial cell-matrix adhesion"
##                    "negative regulation of glucose import"
##                    "tissue remodeling"
##                    "intralumenal vesicle formation"
##                    "regulation of signal transduction involved in mitotic G2 DNA damage checkpoint"
##                    "regulation of chromatin silencing at rDNA"
##                    "positive regulation of myeloid dendritic cell chemotaxis"
##                    "negative regulation of dendritic cell dendrite assembly"
##                    "positive regulation of osteoclast proliferation"
##                    "regulation of angiotensin-activated signaling pathway"
##                    "positive regulation of mast cell cytokine production"
##                    "DNA methylation on cytosine"
##                    "ionotropic glutamate receptor signaling pathway"
##                    "positive regulation of clathrin coat assembly"
##                    "leukocyte migration involved in immune response"
##                    "innate immune response-activating signal transduction"
##                    "cerebellar cortex morphogenesis"
##                    "leukocyte degranulation"
##                    "respiratory burst after phagocytosis"
##                    "interferon-alpha production"
##                    "aldosterone biosynthetic process"
##                    "cortisol biosynthetic process"
##                    "zinc ion transmembrane transport"
##                    "negative regulation of eosinophil extravasation"
##                    "ER overload response"
##                    "regulation of skeletal muscle contraction"
##                    "DNA geometric change"
##                    "hematopoietic stem cell differentiation"
##                    "negative regulation of mesodermal cell fate specification"
##                    "viral entry into host cell"
##                    "regulation of sprouting angiogenesis"
##                    "positive regulation of translational initiation by iron"
##                    "regulation of female receptivity"
##                    "regulation of cellular process"
##                    "olfactory behavior"
##                    "positive regulation of dermatome development"
##                    "regulation of establishment of planar polarity involved in neural tube closure"
##                    "regulation of cargo loading into COPII-coated vesicle"
##                    "flavonoid metabolic process"
##                    "vestibulocochlear nerve structural organization"
##                    "response to glucocorticoid"
##                    "metanephric collecting duct development"
##                    "sensory neuron axon guidance"
##                    "regulation of histone H3-K9 trimethylation"
##                    "negative regulation of glycine import across plasma membrane"
##                    "dorsal root ganglion morphogenesis"
##                    "RNA polyadenylation"
##                    "establishment of synaptic specificity at neuromuscular junction"
```

```
##                     "catecholamine secretion"
##                     "regulation of type B pancreatic cell development"
##                     "establishment of planar polarity"
##                     "embryonic genitalia morphogenesis"
##                     "regulation of chromatin silencing"
##                     "negative regulation of bicellular tight junction assembly"
##                     "formation of primary germ layer"
##                     "negative regulation of epidermal growth factor-activated receptor activity"
##                     "male germ-line stem cell asymmetric division"
##                     "negative regulation of macrophage activation"
##                     "endothelial tube lumen extension"
##                     "positive regulation of endosome organization"
##                     "corticotropin hormone secreting cell differentiation"
##                     "vitamin D3 metabolic process"
##                     "positive regulation of calcineurin-NFAT signaling cascade"
##                     "negative regulation of monocyte chemotactic protein-1 production"
##                     "positive regulation of mitotic cell cycle DNA replication"
##                     "positive regulation of parathyroid hormone secretion"
##                     "regulation of extrinsic apoptotic signaling pathway in absence of ligand"
##                     "facial nerve structural organization"
##                     "eosinophil differentiation"
##                     "collateral sprouting"
##                     "positive regulation of glomerular mesangial cell proliferation"
##                     "negative regulation of branching involved in ureteric bud morphogenesis"
##                     "striatal medium spiny neuron differentiation"
##                     "regulation of kinase activity"
##                     "neutrophil extravasation"
##                     "negative regulation of bone mineralization involved in bone maturation"
##                     "axon choice point recognition"
##                     "positive regulation of stem cell differentiation"
##                     "mesenchymal to epithelial transition"
##                     "protein K27-linked ubiquitination"
##                     "polysaccharide metabolic process"
##                     "neural plate morphogenesis"
##                     "sodium ion import across plasma membrane"
##                     "detection of fungus"
##                     "positive regulation of catecholamine secretion"
##                     "external genitalia morphogenesis"
##                     "nuclear matrix anchoring at nuclear membrane"
##                     "positive regulation of Schwann cell proliferation"
##                     "TORC1 signaling"
##                     "positive regulation of myeloid cell differentiation"
##                     "inner ear receptor cell differentiation"
##                     "epithelial cell proliferation involved in salivary gland morphogenesis"
##                     "inositol metabolic process"
##                     "hormone secretion"
##                     "sclerotome development"
##                     "response to pain"
##                     "regulation of atrial cardiac muscle cell membrane repolarization"
##                     "negative regulation of T cell activation via T cell receptor contact with antigen
##                     "positive regulation of neuron apoptotic process"
##                     "meiotic DNA double-strand break processing"
##                     "regulation of viral entry into host cell"
##                     "negative regulation of cellular response to growth factor stimulus"
```

```
##                     "neurotransmitter receptor transport to postsynaptic membrane"
##                     "negative regulation of glucosylceramide biosynthetic process"
##                     "response to camptothecin"
##                     "negative regulation of peptidyl-cysteine S-nitrosylation"
##                     "positive regulation of mitochondrial transcription"
##                     "regulation of translation in response to stress"
##                     "positive regulation of STAT cascade"
##                     "urogenital system development"
##                     "muscle contraction"
##                     "U1 snRNA 3'-end processing"
##                     "U5 snRNA 3'-end processing"
##                     "cardiac vascular smooth muscle cell development"
##                     "endosomal transport"
##                     "bone trabecula formation"
##                     "cellular response to bacterial lipopeptide"
##                     "response to manganese-induced endoplasmic reticulum stress"
##                     "base-excision repair, base-free sugar-phosphate removal"
##                     "positive regulation of cholesterol transport"
##                     "protection from natural killer cell mediated cytotoxicity"
##                     "peptidyl-proline hydroxylation"
##                     "RNA polymerase II preinitiation complex assembly"
##                     "luteinizing hormone signaling pathway"
##                     "negative regulation of B cell activation"
##                     "epidermis development"
##                     "peptide biosynthetic process"
##                     "gephyrin clustering involved in postsynaptic density assembly"
##                     "detection of mechanical stimulus involved in sensory perception of sound"
##                     "otic vesicle morphogenesis"
##                     "double-strand break repair via synthesis-dependent strand annealing"
##                     "glomerulus vasculature development"
##                     "regulation of DNA-dependent DNA replication"
##                     "positive regulation of myosin-light-chain-phosphatase activity"
##                     "myelination"
##                     "presynaptic membrane assembly"
##                     "ESCRT III complex disassembly"
##                     "cytoplasmic translational initiation"
##                     "centrosome-templated microtubule nucleation"
##                     "secretion by lung epithelial cell involved in lung growth"
##                     "cellular response to testosterone stimulus"
##                     "nephric duct morphogenesis"
##                     "positive regulation of CD8-positive, alpha-beta cytotoxic T cell extravasation"
##                     "early endosome to Golgi transport"
##                     "type B pancreatic cell proliferation"
##                     "regulation of low-density lipoprotein particle receptor catabolic process"
##                     "muscle cell development"
##                     "regulation of dosage compensation by inactivation of X chromosome"
##                     "DNA replication-dependent nucleosome assembly"
##                     "negative regulation of phosphatidylinositol biosynthetic process"
##                     "small-subunit processome assembly"
##                     "actin filament reorganization"
##                     "gastrin-induced gastric acid secretion"
##                     "calcium ion transmembrane transport via high voltage-gated calcium channel"
##                     "positive regulation of fatty acid metabolic process"
##                     "axial mesoderm formation"
```

```
##                     "notochord cell development"
##                     "pericyte cell differentiation"
##                     "positive regulation of cholesterol metabolic process"
##                     "pulmonary valve morphogenesis"
##                     "regulation of the force of heart contraction by chemical signal"
##                     "snRNA metabolic process"
##                     "snRNA modification"
##                     "somatotropin secreting cell development"
##                     "pancreas morphogenesis"
##                     "negative regulation of peroxisome proliferator activated receptor signaling pathwa
##                     "female meiosis chromosome separation"
##                     "regulation of systemic arterial blood pressure by renin-angiotensin"
##                     "leukotriene metabolic process"
##                     "positive regulation of Schwann cell differentiation"
##                     "sensory processing"
##                     "bud outgrowth involved in lung branching"
##                     "endothelial cell chemotaxis to vascular endothelial growth factor"
##                     "stress-induced premature senescence"
##                     "positive regulation of synaptic vesicle recycling"
##                     "protein secretion"
##                     "regulation of macrophage chemotaxis"
##                     "rRNA metabolic process"
##                     "negative regulation of proteasomal ubiquitin-dependent protein catabolic process"
##                     "positive regulation of strand invasion"
##                     "cerebellar Purkinje cell layer structural organization"
##                     "oocyte development"
##                     "cornified envelope assembly"
##                     "regulation of axon diameter"
##                     "regulation of type III interferon production"
##                     "cytoplasmic pattern recognition receptor signaling pathway in response to virus"
##                     "postsynaptic intermediate filament cytoskeleton organization"
##                     "ATP hydrolysis coupled anion transmembrane transport"
##                     "regulation of hydrogen peroxide metabolic process"
##                     "primary sex determination"
##                     "response to gonadotropin-releasing hormone"
##                     "positive regulation of membrane tubulation"
##                     "circadian sleep/wake cycle, non-REM sleep"
##                     "forebrain morphogenesis"
##                     "chondroitin sulfate proteoglycan biosynthetic process"
##                     "prostate gland morphogenesis"
##                     "negative regulation of glucose import in response to insulin stimulus"
##                     "immunoglobulin biosynthetic process"
##                     "negative regulation of epithelial to mesenchymal transition"
##                     "female genitalia development"
##                     "death-inducing signaling complex assembly"
##                     "negative regulation of fibroblast growth factor production"
##                     "regulation of secondary heart field cardioblast proliferation"
##                     "NAD biosynthesis via nicotinamide riboside salvage pathway"
##                     "regulation of cytokine-mediated signaling pathway"
##                     "cartilage development involved in endochondral bone morphogenesis"
##                     "thymus epithelium morphogenesis"
##                     "sodium ion transmembrane transport"
##                     "metanephric ascending thin limb development"
##                     "negative regulation of protein ADP-ribosylation"
```

```
##                     "negative regulation of hippo signaling"
##                     "monocyte activation"
##                     "cholesterol storage"
##                     "negative regulation of cardiac muscle tissue development"
##                     "basal protein localization"
##                     "SNARE complex assembly"
##                     "regulation of voltage-gated calcium channel activity"
##                     "cleavage in ITS2 between 5.8S rRNA and LSU-rRNA of tricistronic rRNA transcript (8
##                     "response to dietary excess"
##                     "tRNA wobble position uridine thiolation"
##                     "axoneme assembly"
##                     "cartilage morphogenesis"
##                     "negative regulation of locomotion involved in locomotory behavior"
##                     "phospholipid transport"
##                     "N-terminal peptidyl-glycine N-myristoylation"
##                     "gonadotrophin-releasing hormone neuronal migration to the hypothalamus"
##                     "ubiquitin-dependent protein catabolic process via the N-end rule pathway"
##                     "facioacoustic ganglion development"
##                     "cell projection morphogenesis"
##                     "negative regulation of vascular endothelial cell proliferation"
##                     "DNA replication proofreading"
##                     "regulation of intrinsic apoptotic signaling pathway in response to DNA damage by p
##                     "DNA replication-independent nucleosome organization"
##                     "regulation of monocyte differentiation"
##                     "positive regulation of striated muscle cell differentiation"
##                     "mesonephric tubule development"
##                     "positive regulation of oxidative stress-induced neuron death"
##                     "regulation of estradiol secretion"
##                     "synaptic transmission, glutamatergic"
##                     "primitive erythrocyte differentiation"
##                     "negative regulation of cell differentiation involved in embryonic placenta develop
##                     "response to gonadotropin"
##                     "antigen processing and presentation, exogenous lipid antigen via MHC class Ib"
##                     "S-adenosylmethionine metabolic process"
##                     "mammary gland duct morphogenesis"
##                     "positive regulation of hormone biosynthetic process"
##                     "isopeptide cross-linking via N6-(L-isoglutamyl)-L-lysine"
##                     "positive regulation of fatty acid oxidation"
##                     "glucocorticoid mediated signaling pathway"
##                     "artery vasodilation involved in baroreceptor response to increased systemic arter
##                     "antigen processing and presentation of endogenous peptide antigen via MHC class I
##                     "ventral spinal cord interneuron differentiation"
##                     "negative regulation of neurological system process"
##                     "negative regulation of aldosterone biosynthetic process"
##                     "regulation of microvillus assembly"
##                     "negative regulation of cortisol biosynthetic process"
##                     "cell activation"
##                     "maturation of 5.8S rRNA"
##                     "induction of bacterial agglutination"
##                     "left/right pattern formation"
##                     "microtubule anchoring at microtubule organizing center"
##                     "behavioral response to nicotine"
##                     "positive regulation of phospholipid scramblase activity"
##                     "positive regulation of glucosylceramide catabolic process"
```

```
##                     "positive regulation of sphingomyelin catabolic process"
##                     "phospholipase C-activating G protein-coupled glutamate receptor signaling pathway"
##                     "regulation of neurological system process"
##                     "positive regulation of superoxide anion generation"
##                     "embryonic skeletal limb joint morphogenesis"
##                     "regulation of corticotropin-releasing hormone secretion"
##                     "anatomical structure regression"
##                     "ureteric bud invasion"
##                     "negative regulation of satellite cell differentiation"
##                     "chromatin silencing at telomere"
##                     "regulation of interleukin-2 biosynthetic process"
##                     "ciliary neurotrophic factor-mediated signaling pathway"
##                     "replication fork reversal"
##                     "fibroblast growth factor receptor signaling pathway involved in mammary gland spe
##                     "mammary gland bud formation"
##                     "branch elongation involved in salivary gland morphogenesis"
##                     "mesenchymal cell differentiation involved in lung development"
##                     "positive regulation of monocyte aggregation"
##                     "negative regulation of thymidylate synthase biosynthetic process"
##                     "positive regulation of maintenance of mitotic sister chromatid cohesion"
##                     "zinc ion homeostasis"
##                     "inflammatory cell apoptotic process"
##                     "hexose transmembrane transport"
##                     "protein localization to tricellular tight junction"
##                     "release of sequestered calcium ion into cytosol by endoplasmic reticulum"
##                     "positive regulation of glucocorticoid receptor signaling pathway"
##                     "smoothened signaling pathway involved in regulation of cerebellar granule cell pr
##                     "meiotic DNA repair synthesis involved in reciprocal meiotic recombination"
##                     "protein farnesylation"
##                     "homologous chromosome orientation involved in meiotic metaphase I plate congressi
##                     "DNA synthesis involved in double-strand break repair via homologous recombination
##                     "positive regulation of natural killer cell mediated immunity"
##                     "protein heterotetramerization"
##                     "regulation of translational initiation by eIF2 alpha phosphorylation"
##                     "methylglyoxal catabolic process to D-lactate via S-lactoyl-glutathione"
##                     "mesenchymal to epithelial transition involved in metanephros morphogenesis"
##                     "regulation of chondrocyte differentiation"
##                     "nuclear polyadenylation-dependent mRNA catabolic process"
##                     "cold acclimation"
##                     "spontaneous neurotransmitter secretion"
##                     "nuclear inner membrane organization"
##                     "regulation of kinetochore assembly"
##                     "negative regulation of skeletal muscle satellite cell proliferation"
##                     "positive regulation of membrane protein ectodomain proteolysis"
##                     "regulation of calcium ion transport into cytosol"
##                     "telencephalon regionalization"
##                     "positive regulation of protein deacetylation"
##                     "positive regulation of histone H3-K9 trimethylation"
##                     "negative regulation of mRNA catabolic process"
##                     "negative regulation of transcription from RNA polymerase II promoter by histone m
##                     "cardiac vascular smooth muscle cell differentiation"
##                     "negative regulation of aspartic-type endopeptidase activity involved in amyloid p
##                     "positive regulation of protein deubiquitination"
##                     "peptidyl-tyrosine dephosphorylation involved in inactivation of protein kinase ac
```

```
##                        "protein polyglutamylation"
##                        "cochlear nucleus development"
##                        "arterial endothelial cell fate commitment"
##                        "blood vessel endothelial cell fate specification"
##                        "positive regulation of ERBB signaling pathway"
##                        "positive regulation of ephrin receptor signaling pathway"
##                        "positive regulation of canonical Wnt signaling pathway involved in cardiac muscle
##                        "protein localization to pericentriolar material"
##                        "vesicle targeting"
##                        "protein localization to lysosome"
##                        "endothelial cell apoptotic process"
##                        "cAMP catabolic process"
##                        "norepinephrine biosynthetic process"
##                        "basal dendrite arborization"
##                        "endocardium morphogenesis"
##                        "negative regulation of G2/M transition of mitotic cell cycle"
##                        "epithelial cilium movement involved in determination of left/right asymmetry"
##                        "fast, calcium ion-dependent exocytosis of neurotransmitter"
##                        "negative regulation of tumor necrosis factor-mediated signaling pathway"
##                        "I-kappaB kinase/NF-kappaB signaling"
##                        "branchiomotor neuron axon guidance"
##                        "regulation of phosphorylation of RNA polymerase II C-terminal domain"
##                        "negative regulation of interferon-beta production"
##                        "regulation of excretion"
##                        "positive regulation of cysteine-type endopeptidase activity involved in apoptotic
##                        "regulation of intracellular calcium activated chloride channel activity"
##                        "cytoplasm organization"
##                        "lymphatic endothelial cell migration"
##                        "endothelial tip cell fate specification"
##                        "exocyst localization"
##                        "regulation of protein heterodimerization activity"
##                        "ventricular cardiac muscle cell action potential"
##                        "negative regulation of amyloid-beta formation"
##                        "regulation of Notch signaling pathway"
##                        "negative regulation of smoothened signaling pathway involved in ventral spinal co
##                        "negative regulation of chemokine production"
##                        "response to DDT"
##                        "cellular response to pyrimidine ribonucleotide"
##                        "histone H3-S10 phosphorylation involved in chromosome condensation"
##                        "regulation of tumor necrosis factor biosynthetic process"
##                        "nose development"
##                        "anastral spindle assembly"
##                        "cellular response to epidermal growth factor stimulus"
##                        "cellular response to mycophenolic acid"
##                        "positive regulation of protein localization to spindle pole body"
##                        "positive regulation of mitotic spindle elongation"
##                        "positive regulation of chromosome separation"
##                        "intermediate filament bundle assembly"
##                        "DNA replication, removal of RNA primer"
##                        "regulation of mitotic cytokinesis"
##                        "regulation of secretion"
##                        "trachea cartilage morphogenesis"
##                        "embryonic epithelial tube formation"
##                        "peptidyl-methionine modification"
```

```
##                     "iron ion homeostasis"
##                     "glycophagy"
##                     "metanephric glomerular capillary formation"
##                     "multi-ciliated epithelial cell differentiation"
##                     "icosanoid metabolic process"
##                     "negative regulation of Rho protein signal transduction"
##                     "regulation of meiotic nuclear division"
##                     "regulation of peptidyl-tyrosine phosphorylation"
##                     "neuron death"
##                     "positive regulation of cell communication by electrical coupling"
##                     "maintenance of protein location in plasma membrane"
##                     "positive regulation of membrane depolarization during cardiac muscle cell action p
##                     "regulation of calcium ion transmembrane transporter activity"
##                     "regulation of Wnt signaling pathway, planar cell polarity pathway"
##                     "pericentric heterochromatin assembly"
##                     "positive regulation of gluconeogenesis"
##                     "NMDA glutamate receptor clustering"
##                     "histone H3-K27 trimethylation"
##                     "positive regulation of dopamine secretion"
##                     "enamel mineralization"
##                     "positive regulation of cellular response to macrophage colony-stimulating factor s
##                     "positive regulation of platelet activation"
##                     "regulation of lamellipodium morphogenesis"
##                     "negative regulation of intracellular steroid hormone receptor signaling pathway"
##                     "regulation of epidermal growth factor receptor signaling pathway"
##                     "positive regulation of chemokine (C-C motif) ligand 2 secretion"
##                     "renal system development"
##                     "negative regulation of myosin-light-chain-phosphatase activity"
##                     "motor neuron apoptotic process"
##                     "regulation of transcription from RNA polymerase II promoter involved in myocardia
##                     "positive regulation of ARF protein signal transduction"
##                     "dendritic cell cytokine production"
##                     "positive regulation of metanephric mesenchymal cell migration by platelet-derived
##                     "mast cell proliferation"
##                     "melanocyte adhesion"
##                     "positive regulation of pyloric antrum smooth muscle contraction"
##                     "positive regulation of colon smooth muscle contraction"
##                     "regulation of growth hormone secretion"
##                     "intraciliary anterograde transport"
##                     "positive regulation by host of symbiont catalytic activity"
##                     "epidermis morphogenesis"
##                     "deadenylation-dependent decapping of nuclear-transcribed mRNA"
##                     "regulation of mRNA stability involved in response to stress"
##                     "sterol biosynthetic process"
##                     "pallium cell proliferation in forebrain"
##                     "post-anal tail morphogenesis"
##                     "negative regulation of secretion"
##                     "positive regulation of DNA metabolic process"
##                     "positive regulation of DNA-directed DNA polymerase activity"
##                     "peptide cross-linking via chondroitin 4-sulfate glycosaminoglycan"
##                     "positive regulation of protein modification process"
##                     "ectodermal cell fate commitment"
##                     "regulation of tyrosine phosphorylation of STAT protein"
##                     "CD4-positive or CD8-positive, alpha-beta T cell lineage commitment"
```

```
##                      "negative regulation of centriole-centriole cohesion"
##                      "SA node cell action potential"
##                      "antigen receptor-mediated signaling pathway"
##                      "glial cell fate commitment"
##                      "positive regulation of transcription from RNA polymerase II promoter in response
##                      "telomere maintenance via base-excision repair"
##                      "regulation of mitochondrial membrane permeability involved in apoptotic process"
##                      "apoptotic chromosome condensation"
##                      "endoplasmic reticulum membrane fusion"
##                      "peptidyl-glutamic acid carboxylation"
##                      "regulation of signal transduction"
##                      "positive regulation of calcium-dependent cell-cell adhesion"
##                      "histone demethylation"
##                      "muscle filament sliding"
##                      "chromatin silencing at centromere"
##                      "interleukin-12 production"
##                      "organelle fusion"
##                      "vagina development"
##                      "vesicle scission"
##                      "female meiosis I"
##                      "thyroid-stimulating hormone-secreting cell differentiation"
##                      "retrograde axonal protein transport"
##                      "error-prone translesion synthesis"
##                      "salivary gland cavitation"
##                      "chondrocyte development involved in endochondral bone morphogenesis"
##                      "mesodermal cell fate determination"
##                      "ventral trunk neural crest cell migration"
##                      "sympathetic neuron projection extension"
##                      "sympathetic neuron projection guidance"
##                      "negative regulation of interleukin-6 secretion"
##                      "semaphorin-plexin signaling pathway involved in neuron projection guidance"
##                      "cell-cell signaling involved in cell-cell junction organization"
##                      "cellular response to bleomycin"
##                      "histamine metabolic process"
##                      "surfactant homeostasis"
##                      "embryonic organ morphogenesis"
##                      "natural killer cell activation involved in immune response"
##                      "mast cell cytokine production"
##                      "Arp2/3 complex-mediated actin nucleation"
##                      "protein localization to plasma membrane raft"
##                      "regulation of membrane depolarization during cardiac muscle cell action potential
##                      "neurotransmitter transport"
##                      "midbrain morphogenesis"
##                      "cell migration involved in gastrulation"
##                      "establishment of protein localization to endoplasmic reticulum membrane"
##                      "negative regulation of macrophage differentiation"
##                      "lens fiber cell morphogenesis"
##                      "cell proliferation involved in metanephros development"
##                      "response to interferon-alpha"
##                      "regulation of odontogenesis"
##                      "positive regulation of G0 to G1 transition"
##                      "generation of catalytic spliceosome for second transesterification step"
##                      "nucleotide-excision repair, DNA damage recognition"
##                      "regulation of neurotransmitter levels"
```

```
##                      "positive regulation of nuclear cell cycle DNA replication"
##                      "response to parathyroid hormone"
##                      "regulation of cardiac muscle cell contraction"
##                      "negative regulation of histone H4 acetylation"
##                      "regulation of iron ion import"
##                      "insemination"
##                      "positive regulation of cell projection organization"
##                      "regulation of SA node cell action potential"
##                      "regulation of synaptic vesicle docking"
##                      "peptidyl-threonine autophosphorylation"
##                      "negative regulation of translational elongation"
##                      "negative regulation of acute inflammatory response to non-antigenic stimulus"
##                      "negative regulation of translational initiation"
##                      "dosage compensation"
##                      "mast cell activation"
##                      "axonal transport"
##                      "negative regulation of transcription of nucleolar large rRNA by RNA polymerase I"
##                      "positive regulation of calcium ion transport into cytosol"
##                      "positive regulation of transporter activity"
##                      "positive regulation of neutrophil degranulation"
##                      "ectoderm and mesoderm interaction"
##                      "epidermal cell division"
##                      "inositol phosphate dephosphorylation"
##                      "positive regulation of somatic stem cell population maintenance"
##                      "lymph vessel morphogenesis"
##                      "positive regulation of oxidoreductase activity"
##                      "regulation of gastric acid secretion"
##                      "protein O-linked glycosylation via threonine"
##                      "regulation of myosin-light-chain-phosphatase activity"
##                      "negative regulation of post-translational protein modification"
##                      "cell-matrix adhesion"
##                      "synaptic membrane adhesion"
##                      "regulation of synaptic transmission, dopaminergic"
##                      "mature natural killer cell chemotaxis"
##                      "astrocyte differentiation"
##                      "negative regulation of adiponectin secretion"
##                      "positive regulation of thymocyte migration"
##                      "positive regulation of granzyme A production"
##                      "negative regulation of T-helper 1 cell activation"
##                      "positive regulation of immunoglobulin production in mucosal tissue"
##                      "negative regulation of heart rate involved in baroreceptor response to increased s
##                      "retinoic acid catabolic process"
##                      "negative regulation of dendrite development"
##                      "response to sucrose"
##                      "negative regulation of mast cell cytokine production"
##                      "positive regulation of activin receptor signaling pathway"
##                      "protein-chromophore linkage"
##                      "Wnt signaling pathway involved in somitogenesis"
##                      "mitotic recombination-dependent replication fork processing"
##                      "sperm entry"
##                      "glomerular visceral epithelial cell differentiation"
##                      "central nervous system myelination"
##                      "positive regulation of phosphoprotein phosphatase activity"
##                      "base-excision repair, gap-filling"
```

```
##                     "response to chlorate"
##                     "positive regulation of cytoplasmic mRNA processing body assembly"
##                     "positive regulation of epithelial cell proliferation involved in wound healing"
##                     "positive regulation of gliogenesis"
##                     "positive regulation of protein sumoylation"
##                     "modulation of age-related behavioral decline"
##                     "neurotransmitter receptor transport, postsynaptic endosome to lysosome"
##                     "vesicle organization"
##                     "negative thymic T cell selection"
##                     "glycerol-3-phosphate biosynthetic process"
##                     "negative regulation of T cell differentiation"
##                     "positive regulation of phospholipase activity"
##                     "interleukin-2-mediated signaling pathway"
##                     "pilomotor reflex"
##                     "positive regulation of megakaryocyte differentiation"
##                     "lymphocyte migration into lymphoid organs"
##                     "negative regulation of tumor necrosis factor secretion"
##                     "negative regulation of early endosome to late endosome transport"
##                     "transition between slow and fast fiber"
##                     "dorsal spinal cord development"
##                     "positive regulation of fibrinolysis"
##                     "common bile duct development"
##                     "regulation of atrial cardiac muscle cell action potential"
##                     "positive regulation of vascular smooth muscle cell differentiation"
##                     "regulation of nuclear cell cycle DNA replication"
##                     "positive regulation of low-density lipoprotein particle receptor biosynthetic proc
##                     "regulation of synaptic vesicle priming"
##                     "amygdala development"
##                     "histone H3-K4 dimethylation"
##                     "regulation of histone H3-K14 acetylation"
##                     "regulation of protein localization to nucleus"
##                     "regulation of histone H3-K27 acetylation"
##                     "positive regulation of cellular response to drug"
##                     "cellular response to water deprivation"
##                     "regulation of RNA polymerase II transcriptional preinitiation complex assembly"
##                     "cellular response to rapamycin"
##                     "cytokinesis"
##                     "protein urmylation"
##                     "tRNA thio-modification"
##                     "membrane protein ectodomain proteolysis"
##                     "histone H3-K9 dimethylation"
##                     "visual perception"
##                     "snRNA transcription"
##                     "axon extension involved in axon guidance"
##                     "spermine transport"
##                     "establishment of chromatin silencing"
##                     "female gamete generation"
##                     "behavioral response to starvation"
##                     "negative regulation of histone H3-K14 acetylation"
##                     "negative regulation of cellular response to testosterone stimulus"
##                     "anterior commissure morphogenesis"
##                     "U4 snRNA 3'-end processing"
##                     "negative regulation of immature T cell proliferation"
##                     "positive regulation of adenylate cyclase-activating G protein-coupled receptor sig
```

```
##                      "regulation of ovarian follicle development"
##                      "short-term memory"
##                      "evasion or tolerance by virus of host immune response"
##                      "regulation of NLRP3 inflammasome complex assembly"
##                      "response to acetate"
##                      "positive regulation of steroid biosynthetic process"
##                      "renal absorption"
##                      "regulation of hematopoietic progenitor cell differentiation"
##                      "Schwann cell development"
##                      "negative regulation of circadian sleep/wake cycle, non-REM sleep"
##                      "negative regulation of mucus secretion"
##                      "regulation of peptidase activity"
##                      "negative regulation of peptidyl-tyrosine autophosphorylation"
##                      "negative regulation of inward rectifier potassium channel activity"
##                      "regulation of smooth muscle cell apoptotic process"
##                      "regulation of receptor recycling"
##                      "regulation of actin filament length"
##                      "interleukin-18-mediated signaling pathway"
##                      "hematopoietic stem cell homeostasis"
##                      "TCR signalosome assembly"
##                      "negative regulation of hydrogen peroxide-mediated programmed cell death"
##                      "glycolipid biosynthetic process"
##                      "negative regulation of MyD88-independent toll-like receptor signaling pathway"
##                      "regulation of peroxisome proliferator activated receptor signaling pathway"
##                      "cortical actin cytoskeleton organization"
##                      "chemoattraction of serotonergic neuron axon"
##                      "negative regulation of cell adhesion molecule production"
##                      "planar cell polarity pathway involved in outflow tract morphogenesis"
##                      "planar cell polarity pathway involved in ventricular septum morphogenesis"
##                      "planar cell polarity pathway involved in cardiac right atrium morphogenesis"
##                      "planar cell polarity pathway involved in cardiac muscle tissue morphogenesis"
##                      "planar cell polarity pathway involved in pericardium morphogenesis"
##                      "negative regulation of cell proliferation in midbrain"
##                      "planar cell polarity pathway involved in midbrain dopaminergic neuron differentia
##                      "positive regulation of autophagosome assembly"
##                      "estrogen metabolic process"
##                      "skeletal muscle satellite cell activation"
##                      "central nervous system morphogenesis"
##                      "mesodermal to mesenchymal transition involved in gastrulation"
##                      "phosphatidylinositol 5-phosphate metabolic process"
##                      "cellular response to glycoprotein"
##                      "cellular response to thyrotropin-releasing hormone"
##                      "nuclear-transcribed mRNA catabolic process, exonucleolytic, 3'-5'"
##                      "negative regulation of cellular protein catabolic process"
##                      "regulation of hepatocyte growth factor receptor signaling pathway"
##                      "dendritic cell dendrite assembly"
##                      "regulation of cell-matrix adhesion"
##                      "auditory receptor cell fate commitment"
##                      "senescence-associated heterochromatin focus assembly"
##                      "meiotic DNA double-strand break processing involved in reciprocal meiotic recombi
##                      "regulation of mitotic metaphase/anaphase transition"
##                      "regulation of canonical Wnt signaling pathway"
##                      "neural crest cell migration involved in heart formation"
##                      "cellular biogenic amine metabolic process"
```

```
##                     "anterior neural tube closure"
##                     "cellular response to folic acid"
##                     "negative regulation of entry of bacterium into host cell"
##                     "regulation of B cell proliferation"
##                     "positive regulation of flagellated sperm motility involved in capacitation"
##                     "regulation of hematopoietic stem cell proliferation"
##                     "positive regulation of dendritic spine maintenance"
##                     "regulation of regulated secretory pathway"
##                     "positive regulation of Arp2/3 complex-mediated actin nucleation"
##                     "female courtship behavior"
##                     "proteasomal protein catabolic process"
##                     "macrophage cytokine production"
##                     "multivesicular body-lysosome fusion"
##                     "nuclear migration along microfilament"
##                     "somatostatin secretion"
##                     "positive regulation of lipoprotein particle clearance"
##                     "telomere assembly"
##                     "negative regulation of astrocyte activation"
##                     "negative regulation of synaptic vesicle recycling"
##                     "strand displacement"
##                     "resolution of recombination intermediates"
##                     "regulation of viral release from host cell"
##                     "positive regulation of chaperone-mediated protein folding"
##                     "extracellular transport"
##                     "establishment of neuroblast polarity"
##                     "positive regulation of ER-associated ubiquitin-dependent protein catabolic process
##                     "positive regulation of timing of anagen"
##                     "negative regulation of behavioral fear response"
##                     "neuromuscular junction development"
##                     "iron ion import across plasma membrane"
##                     "ovarian cumulus expansion"
##                     "retinal pigment epithelium development"
##                     "p38MAPK cascade"
##                     "kinetochore organization"
##                     "inositol phosphate catabolic process"
##                     "vascular endothelial growth factor receptor-2 signaling pathway"
##                     "maintenance of permeability of blood-brain barrier"
##                     "recognition of apoptotic cell"
##                     "relaxation of muscle"
##                     "chorion development"
##                     "postsynaptic density protein 95 clustering"
##                     "bombesin receptor signaling pathway"
##                     "cellular response to gonadotropin stimulus"
##                     "TNFSF11-mediated signaling pathway"
##                     "replication-born double-strand break repair via sister chromatid exchange"
##                     "mesenchymal-epithelial cell signaling"
##                     "melanocyte migration"
##                     "positive regulation of extrinsic apoptotic signaling pathway via death domain rece
##                     "immature B cell differentiation"
##                     "positive regulation of lipoprotein lipase activity"
##                     "T-helper 17 cell differentiation"
##                     "regulation of phosphate transport"
##                     "random inactivation of X chromosome"
##                     "protein deacetylation"
```

```
##                    "hypophysis morphogenesis"
##                    "positive regulation of synapse maturation"
##                    "peptidyl-arginine N-methylation"
##                    "ventricular zone neuroblast division"
##                    "negative regulation of appetite by leptin-mediated signaling pathway"
##                    "potassium ion homeostasis"
##                    "regulation of amyloid-beta formation"
##                    "positive regulation of bleb assembly"
##                    "positive regulation of histone H3-K79 methylation"
##                    "regulation of hair cycle"
##                    "negative regulation of ERAD pathway"
##                    "dichotomous subdivision of terminal units involved in salivary gland branching"
##                    "positive regulation of viral release from host cell"
##                    "maturation of LSU-rRNA"
##                    "thromboxane A2 signaling pathway"
##                    "positive regulation of pancreatic juice secretion"
##                    "growth plate cartilage chondrocyte development"
##                    "nucleosome mobilization"
##                    "negative regulation of CD8-positive, alpha-beta T cell differentiation"
##                    "negative regulation of sister chromatid cohesion"
##                    "cell-cell adhesion mediated by cadherin"
##                    "regulation of growth plate cartilage chondrocyte proliferation"
##                    "glycoprotein metabolic process"
##                    "protein desumoylation"
##                    "ascending aorta morphogenesis"
##                    "behavior"
##                    "camera-type eye development"
##                    "toll-like receptor TLR1:TLR2 signaling pathway"
##                    "cellular response to triacyl bacterial lipopeptide"
##                    "optokinetic behavior"
##                    "regulation of primitive erythrocyte differentiation"
##                    "eosinophil fate commitment"
##                    "semicircular canal formation"
##                    "morphogenesis of an epithelium"
##                    "catecholamine metabolic process"
##                    "cerebellar granule cell precursor proliferation"
##                    "cellular sodium ion homeostasis"
##                    "response to anoxia"
##                    "regulation of epidermal cell differentiation"
##                    "positive regulation of dense core granule biogenesis"
##                    "planar cell polarity pathway involved in gastrula mediolateral intercalation"
##                    "snRNA transcription by RNA polymerase III"
##                    "hematopoietic progenitor cell differentiation"
##                    "regulation of MyD88-dependent toll-like receptor signaling pathway"
##                    "positive regulation by host of symbiont cAMP-mediated signal transduction"
##                    "establishment of protein localization to mitochondrial membrane"
##                    "membrane depolarization during SA node cell action potential"
##                    "protein exit from endoplasmic reticulum"
##                    "fibroblast growth factor receptor signaling pathway involved in orbitofrontal cor
##                    "regulation of retinal ganglion cell axon guidance"
##                    "regulation of potassium ion transmembrane transport"
##                    "positive regulation of hepatic stellate cell activation"
##                    "negative regulation of cell projection organization"
##                    "sarcomerogenesis"
```

```
##                    "cellular response to camptothecin"
##                    "Fc receptor signaling pathway"
##                    "trigeminal ganglion development"
##                    "ammonium transmembrane transport"
##                    "cortisol secretion"
##                    "positive regulation of gastric mucosal blood circulation"
##                    "nucleotide-excision repair, DNA gap filling"
##                    "negative regulation of cell cycle G1/S phase transition"
##                    "cardiac muscle cell fate commitment"
##                    "regulation of mRNA binding"
##                    "osteoblast fate commitment"
##                    "regulation of lipid transport by positive regulation of transcription from RNA pol
##                    "plus-end-directed organelle transport along microtubule"
##                    "regulation of delayed rectifier potassium channel activity"
##                    "neurofibrillary tangle assembly"
##                    "positive regulation of diacylglycerol kinase activity"
##                    "lung saccule development"
##                    "dehydroascorbic acid transport"
##                    "negative regulation of histone methylation"
##                    "regulation of podosome assembly"
##                    "blood coagulation, fibrin clot formation"
##                    "regulation of bicellular tight junction assembly"
##                    "cellular magnesium ion homeostasis"
##                    "regulation of lipid biosynthetic process"
##                    "blood vessel lumenization"
##                    "cerebral cortex neuron differentiation"
##                    "positive regulation of T-helper 2 cell activation"
##                    "vitamin transport"
##                    "mitotic sister chromatid cohesion, centromeric"
##                    "negative regulation of transcription from RNA polymerase II promoter involved in s
##                    "posttranscriptional gene silencing"
##                    "thymic T cell selection"
##                    "negative regulation of cytokine secretion involved in immune response"
##                    "extrinsic apoptotic signaling pathway via death domain receptors"
##                    "Wnt signaling pathway involved in midbrain dopaminergic neuron differentiation"
##                    "positive regulation of eukaryotic translation initiation factor 4F complex assembl
##                    "positive regulation of mRNA cap binding"
##                    "regulation of polysome binding"
##                    "tube formation"
##                    "convergent extension involved in organogenesis"
##                    "regulation of double-strand break repair"
##                    "notochord formation"
##                    "transmembrane receptor protein serine/threonine kinase signaling pathway"
##                    "negative regulation of microglial cell activation"
##                    "exocytosis"
##                    "positive regulation of myelination"
##                    "endosomal lumen acidification"
##                    "beta-catenin destruction complex assembly"
##                    "regulation of transcription from RNA polymerase II promoter in response to UV-indu
##                    "regulation of sodium ion transmembrane transport"
##                    "renal artery morphogenesis"
##                    "receptor localization to non-motile cilium"
##                    "cellular response to amino acid stimulus"
##                    "kidney development"
```

```
##                      "forebrain neuron development"
##                      "regulation of TOR signaling"
##                      "positive regulation of growth rate"
##                      "positive regulation of amyloid precursor protein biosynthetic process"
##                      "positive regulation of cerebellar granule cell precursor proliferation"
##                      "positive regulation of histone modification"
##                      "regulation of histone ubiquitination"
##                      "positive regulation of Rac protein signal transduction"
##                      "leukocyte chemotaxis involved in inflammatory response"
##                      "SREBP signaling pathway"
##                      "regulation of pro-B cell differentiation"
##                      "negative regulation of T-helper 1 type immune response"
##                      "protein auto-ADP-ribosylation"
##                      "actin polymerization-dependent cell motility"
##                      "ATP generation from poly-ADP-D-ribose"
##                      "regulation of response to DNA damage stimulus"
##                      "chondrocyte differentiation"
##                      "negative regulation of leukocyte migration"
##                      "lysosomal transport"
##                      "regulation of fatty acid beta-oxidation"
##                      "positive regulation of synaptic transmission, GABAergic"
##                      "RIG-I signaling pathway"
##                      "negative regulation of vascular smooth muscle cell proliferation"
##                      "vitamin D catabolic process"
##                      "hormonal regulation of the force of heart contraction"
##                      "positive regulation of the force of heart contraction by chemical signal"
##                      "thyroid-stimulating hormone signaling pathway"
##                      "response to epinephrine"
##                      "actin ubiquitination"
##                      "positive regulation of interleukin-17-mediated signaling pathway"
##                      "positive regulation of chemokine (C-C motif) ligand 20 production"
##                      "inactivation of X chromosome by genetic imprinting"
##                      "renal sodium ion absorption"
##                      "cardiac atrium morphogenesis"
##                      "lung vasculature development"
##                      "negative regulation of T-helper 17 type immune response"
##                      "negative regulation of icosanoid secretion"
##                      "epithelial cell maturation involved in prostate gland development"
##                      "snRNA 3'-end processing"
##                      "negative regulation of protein K63-linked ubiquitination"
##                      "axon ensheathment"
##                      "collagen-activated signaling pathway"
##                      "negative regulation of cardiac muscle cell differentiation"
##                      "RNA methylation"
##                      "positive regulation of meiotic cell cycle"
##                      "extrinsic apoptotic signaling pathway"
##                      "protein O-linked glycosylation via serine"
##                      "immunoglobulin V(D)J recombination"
##                      "establishment of endothelial barrier"
##                      "T-helper 17 cell chemotaxis"
##                      "negative regulation of eosinophil degranulation"
##                      "sensory perception of sweet taste"
##                      "sensory perception of umami taste"
##                      "leukocyte adhesion to vascular endothelial cell"
```

```
##                     "positive regulation of immune complex clearance by monocytes and macrophages"
##                     "positive regulation of CD8-positive, alpha-beta T cell extravasation"
##                     "positive regulation of astrocyte chemotaxis"
##                     "focal adhesion assembly"
##                     "intracellular sequestering of iron ion"
##                     "Golgi to vacuole transport"
##                     "negative regulation of phosphatidylinositol 3-kinase signaling"
##                     "regulation of germinal center formation"
##                     "positive regulation of hindgut contraction"
##                     "negative regulation of lymphangiogenesis"
##                     "metaphase/anaphase transition of mitotic cell cycle"
##                     "response to rapamycin"
##                     "cellular response to putrescine"
##                     "hepatocyte dedifferentiation"
##                     "cleavage involved in rRNA processing"
##                     "VEGF-activated neuropilin signaling pathway"
##                     "cellular response to corticosterone stimulus"
##                     "motor neuron migration"
##                     "positive regulation of retinal ganglion cell axon guidance"
##                     "regulation of leukocyte mediated cytotoxicity"
##                     "embryonic body morphogenesis"
##                     "response to sulfur dioxide"
##                     "T cell extravasation"
##                     "positive regulation of T cell differentiation in thymus"
##                     "nuclear export"
##                     "collagen catabolic process"
##                     "regulation of aspartic-type endopeptidase activity involved in amyloid precursor p
##                     "negative regulation of female gonad development"
##                     "regulation of low-density lipoprotein particle clearance"
##                     "regulation of endosome organization"
##                     "sex determination"
##                     "positive regulation of the force of heart contraction"
##                     "chromosome passenger complex localization to kinetochore"
##                     "radial glia guided migration of Purkinje cell"
##                     "hydroxylysine biosynthetic process"
##                     "positive regulation of bone development"
##                     "negative regulation of potassium ion transmembrane transport"
##                     "negative regulation of nucleotide-binding oligomerization domain containing 2 sig
##                     "endochondral ossification"
##                     "regulation of acute inflammatory response"
##                     "macrophage colony-stimulating factor signaling pathway"
##                     "stem cell proliferation"
##                     "membrane depolarization during cardiac muscle cell action potential"
##                     "positive regulation of monocyte extravasation"
##                     "lacrimal gland development"
##                     "progesterone secretion"
##                     "tRNA 5'-end processing"
##                     "adaptive immune response based on somatic recombination of immune receptors built
##                     "defense response to fungus, incompatible interaction"
##                     "regulation of interleukin-23 production"
##                     "histone H3-K4 demethylation, trimethyl-H3-K4-specific"
##                     "retina morphogenesis in camera-type eye"
##                     "branch elongation involved in mammary gland duct branching"
##                     "regulation of cartilage development"
```

```
##                       "positive regulation of receptor clustering"
##                       "transforming growth factor beta receptor signaling pathway involved in heart devel
##                       "embryonic liver development"
##                       "inner cell mass cell differentiation"
##                       "regulation of MAP kinase activity"
##                       "T-helper 2 cell differentiation"
##                       "regulation of receptor-mediated endocytosis"
##                       "spermatid nucleus differentiation"
##                       "negative regulation of neutrophil apoptotic process"
##                       "intrinsic apoptotic signaling pathway in response to endoplasmic reticulum stress
##                       "positive regulation of monocyte chemotactic protein-1 production"
##                       "astral microtubule organization"
##                       "regulation of cellular amino acid metabolic process"
##                       "high-density lipoprotein particle remodeling"
##                       "mesodermal cell differentiation"
##                       "metanephric tubule morphogenesis"
##                       "regulation of mitotic nuclear division"
##                       "regulation of endothelial cell chemotaxis to fibroblast growth factor"
##                       "ventricular trabecula myocardium morphogenesis"
##                       "negative regulation of macrophage cytokine production"
##                       "septin ring organization"
##                       "maintenance of protein location in cell"
##                       "positive regulation of microglial cell migration"
##                       "protein localization to mitotic actomyosin contractile ring"
##                       "negative regulation of translation"
##                       "response to caloric restriction"
##                       "positive regulation of mitochondrion organization"
##                       "positive regulation of triglyceride biosynthetic process"
##                       "peptidyl-lysine oxidation"
##                       "mesodermal cell fate specification"
##                       "negative regulation of endothelial cell differentiation"
##                       "regulation of memory T cell differentiation"
##                       "cellular response to gravity"
##                       "negative regulation of mitotic cell cycle DNA replication"
##                       "positive regulation of transcytosis"
##                       "positive regulation of maternal process involved in parturition"
##                       "positive regulation of gastro-intestinal system smooth muscle contraction"
##                       "cellular response to 2-O-acetyl-1-O-hexadecyl-sn-glycero-3-phosphocholine"
##                       "reelin-mediated signaling pathway"
##                       "negative regulation of histone phosphorylation"
##                       "erythropoietin-mediated signaling pathway"
##                       "negative regulation of receptor biosynthetic process"
##                       "activation of protein kinase activity"
##                       "negative regulation of toll-like receptor 3 signaling pathway"
##                       "muscle tissue development"
##                       "cerebellum vasculature morphogenesis"
##                       "positive regulation of intracellular signal transduction"
##                       "epoxygenase P450 pathway"
##                       "positive regulation of keratinocyte apoptotic process"
##                       "negative regulation of chondrocyte proliferation"
##                       "histone phosphorylation"
##                       "response to follicle-stimulating hormone"
##                       "negative regulation of maintenance of mitotic sister chromatid cohesion, telomeri
##                       "positive regulation of chemokine biosynthetic process"
```

```
##                     "maturation of 5S rRNA"
##                     "positive regulation of centrosome duplication"
##                     "ventral spinal cord development"
##                     "negative regulation of telomere maintenance via recombination"
##                     "sequestering of actin monomers"
##                     "anterograde axonal transport of messenger ribonucleoprotein complex"
##                     "positive regulation of mitotic cell cycle phase transition"
##                     "negative regulation of beta-galactosidase activity"
##                     "negative regulation of telomere single strand break repair"
##                     "monoubiquitinated protein deubiquitination"
##                     "regulation of low-density lipoprotein particle receptor biosynthetic process"
##                     "iris morphogenesis"
##                     "cranial suture morphogenesis"
##                     "positive regulation of cyclic nucleotide-gated ion channel activity"
##                     "regulation of postsynaptic density protein 95 clustering"
##                     "positive regulation of cellular response to insulin stimulus"
##                     "thyroid hormone generation"
##                     "negative regulation of dephosphorylation"
##                     "neuroblast migration"
##                     "positive regulation of ion transmembrane transporter activity"
##                     "intracellular pH elevation"
##                     "endothelial cell-cell adhesion"
##                     "positive regulation of macrophage cytokine production"
##                     "negative regulation of lysosomal protein catabolic process"
##                     "positive regulation of cytotoxic T cell differentiation"
##                     "positive regulation of lactation"
##                     "cellular response to oxygen-glucose deprivation"
##                     "positive regulation of T cell mediated cytotoxicity"
##                     "endoplasmic reticulum mannose trimming"
##                     "cytosolic calcium signaling involved in initiation of cell movement in glial-medi
##                     "regulation of microglial cell migration"
##                     "leukocyte migration involved in inflammatory response"
##                     "regulation of proteasomal ubiquitin-dependent protein catabolic process"
##                     "positive regulation of mammary gland epithelial cell proliferation"
##                     "brain morphogenesis"
##                     "midbrain-hindbrain boundary development"
##                     "hematopoietic stem cell migration"
##                     "type 2 immune response"
##                     "free ubiquitin chain polymerization"
##                     "regulation of mRNA 3'-end processing"
##                     "negative regulation of low-density lipoprotein particle clearance"
##                     "negative regulation of CD4-positive, alpha-beta T cell differentiation"
##                     "negative regulation of renin secretion into blood stream"
##                     "muscular septum morphogenesis"
##                     "type B pancreatic cell differentiation"
##                     "telomere maintenance via telomerase"
##                     "cellular response to electrical stimulus"
##                     "protein localization to phagophore assembly site"
##                     "protein transport to vacuole involved in ubiquitin-dependent protein catabolic pr
##                     "negative regulation of translational initiation in response to stress"
##                     "positive regulation of kinase activity"
##                     "blastocyst hatching"
##                     "positive regulation of cellular extravasation"
##                     "negative regulation of neuron migration"
```

```
##                     "regulation of postsynaptic neurotransmitter receptor internalization"
##                     "extracellular matrix assembly"
##                     "eosinophil degranulation"
##                     "calcitonin gene-related peptide receptor signaling pathway"
##                     "cerebellar granule cell precursor tangential migration"
##                     "protein linear polyubiquitination"
##                     "bone mineralization"
##                     "transformation of host cell by virus"
##                     "commitment of neuronal cell to specific neuron type in forebrain"
##                     "negative regulation of superoxide anion generation"
##                     "toll-like receptor TLR6:TLR2 signaling pathway"
##                     "cellular response to diacyl bacterial lipopeptide"
##                     "pyrimidine dimer repair by nucleotide-excision repair"
##                     "cardiac septum development"
##                     "lipid storage"
##                     "negative regulation of interleukin-8 biosynthetic process"
##                     "negative regulation of lymphocyte differentiation"
##                     "primitive streak formation"
##                     "vasopressin secretion"
##                     "anterograde neuronal dense core vesicle transport"
##                     "regulation of G protein-coupled receptor signaling pathway"
##                     "protein localization to paranode region of axon"
##                     "DNA methylation on cytosine within a CG sequence"
##                     "type I pneumocyte differentiation"
##                     "interleukin-10 production"
##                     "Peyer's patch morphogenesis"
##                     "regulation of membrane depolarization"
##                     "regulation of neurotransmitter secretion"
##                     "regulation of transcription involved in G1/S transition of mitotic cell cycle"
##                     "positive regulation of histone acetylation"
##                     "semicircular canal morphogenesis"
##                     "membrane hyperpolarization"
##                     "regulation of epithelial to mesenchymal transition involved in endocardial cushio
##                     "monoubiquitinated histone H2A deubiquitination"
##                     "promoter clearance from RNA polymerase II promoter"
##                     "regulation of transposition, RNA-mediated"
##                     "regulation of mast cell chemotaxis"
##                     "cellular response to morphine"
##                     "regulation of neutrophil migration"
##                     "regulation of calcidiol 1-monooxygenase activity"
##                     "mononuclear cell proliferation"
##                     "regulation of B cell apoptotic process"
##                     "detection of muscle stretch"
##                     "postsynapse assembly"
##                     "forebrain radial glial cell differentiation"
##                     "negative regulation of prostaglandin biosynthetic process"
##                     "Clara cell differentiation"
##                     "maintenance of DNA methylation"
##                     "protein localization to adherens junction"
##                     "negative regulation of transforming growth factor beta1 production"
##                     "mitotic DNA replication checkpoint"
##                     "calcium ion import across plasma membrane"
##                     "blood vessel endothelial cell proliferation involved in sprouting angiogenesis"
##                     "positive regulation of granulocyte differentiation"
```

```
##                      "vitamin D receptor signaling pathway"
##                      "superior temporal gyrus development"
##                      "positive regulation of mononuclear cell migration"
##                      "epithelial cell-cell adhesion"
##                      "response to ultrasound"
##                      "follicular B cell differentiation"
##                      "cellular hyperosmotic salinity response"
##                      "negative regulation of intrinsic apoptotic signaling pathway in response to DNA da
##                      "positive regulation of T cell tolerance induction"
##                      "mesenchymal cell proliferation"
##                      "cellular response to cell-matrix adhesion"
##                      "negative regulation of pancreatic juice secretion"
##                      "astrocyte cell migration"
##                      "regulation of neuron projection development"
##                      "cholesterol transport"
##                      "regulation of action potential"
##                      "regulation of vascular endothelial growth factor receptor signaling pathway"
##                      "positive regulation of transcription from RNA polymerase II promoter by galactose"
##                      "syncytiotrophoblast cell differentiation involved in labyrinthine layer developmen
##                      "positive regulation of excitatory postsynaptic potential"
##                      "positive regulation of integrin activation by cell surface receptor linked signal
##                      "negative regulation of lipase activity"
##                      "negative regulation of leukocyte activation"
##                      "labyrinthine layer morphogenesis"
##                      "mannose transmembrane transport"
##                      "cholesterol esterification"
##                      "axial mesoderm development"
##                      "sialylation"
##                      "retrograde transport, vesicle recycling within Golgi"
##                      "embryonic placenta development"
##                      "cerebral cortex radially oriented cell migration"
##                      "positive regulation of mitotic cell cycle"
##                      "negative regulation of formation of translation preinitiation complex"
##                      "positive regulation of intrinsic apoptotic signaling pathway in response to DNA da
##                      "regulation of translation involved in cellular response to UV"
##                      "regulation of circadian sleep/wake cycle, wakefulness"
##                      "circadian sleep/wake cycle process"
##                      "negative regulation of interleukin-8 production"
##                      "spinal cord ventral commissure morphogenesis"
##                      "cell development"
##                      "propylene metabolic process"
##                      "pons maturation"
##                      "response to glycine"
##                      "telomeric loop formation"
##                      "regulation of penile erection"
##                      "negative regulation of apoptotic process in bone marrow"
##                      "negative regulation of cytokine-mediated signaling pathway"
##                      "dorsal/ventral axon guidance"
##                      "neuron differentiation"
##                      "embryonic heart tube development"
##                      "signal transduction involved in mitotic G2 DNA damage checkpoint"
##                      "positive regulation of DNA catabolic process"
##                      "regulation of microglial cell activation"
##                      "regulation of cellular response to gamma radiation"
```

```
##                      "inhibitory synapse assembly"
##                      "ossification involved in bone remodeling"
##                      "positive regulation of NF-kappaB transcription factor activity"
##                      "cytoskeletal anchoring at nuclear membrane"
##                      "negative regulation of ventricular cardiac muscle cell action potential"
##                      "positive regulation of keratinocyte proliferation"
##                      "cellular response to iron ion"
##                      "negative regulation of cilium assembly"
##                      "T-helper 17 cell lineage commitment"
##                      "somatic diversification of immunoglobulins"
##                      "negative regulation of cell cycle process"
##                      "nuclear fragmentation involved in apoptotic nuclear change"
##                      "negative regulation of DNA metabolic process"
##                      "leukocyte proliferation"
##                      "positive regulation of neutrophil mediated killing of gram-negative bacterium"
##                      "interleukin-10 secretion"
##                      "chemokine secretion"
##                      "negative regulation of chemokine secretion"
##                      "DNA catabolic process, exonucleolytic"
##                      "mesonephros development"
##                      "negative regulation of isotype switching to IgA isotypes"
##                      "Wnt signaling pathway, calcium modulating pathway"
##                      "notochord morphogenesis"
##                      "muscle cell fate commitment"
##                      "negative regulation of axon regeneration"
##                      "negative regulation of uterine smooth muscle contraction"
##                      "cell recognition"
##                      "positive regulation of transcription via serum response element binding"
##                      "regulation of signaling"
##                      "positive regulation of platelet-derived growth factor receptor-beta signaling path
##                      "neuromuscular synaptic transmission"
##                      "negative regulation of muscle cell apoptotic process"
##                      "nucleosome organization"
##                      "vesicle-mediated transport in synapse"
##                      "negative regulation of integrin activation"
##                      "positive regulation of T cell differentiation"
##                      "positive regulation of double-strand break repair"
##                      "negative regulation of glucose transmembrane transport"
##                      "interstrand cross-link repair"
##                      "cerebral cortex regionalization"
##                      "regulation of chromosome organization"
##                      "phospholipid efflux"
##                      "regulation of interferon-beta production"
##                      "tRNA wobble uridine modification"
##                      "ISG15-protein conjugation"
##                      "positive regulation of transmission of nerve impulse"
##                      "negative regulation of thymocyte apoptotic process"
##                      "negative regulation of maintenance of mitotic sister chromatid cohesion, centrome
##                      "neural tube patterning"
##                      "ossification involved in bone maturation"
##                      "positive regulation of glial cell proliferation"
##                      "DNA methylation involved in gamete generation"
##                      "cellular response to iron(III) ion"
##                      "skeletal muscle contraction"
```

```
##                     "DNA replication, Okazaki fragment processing"
##                     "regulatory T cell differentiation"
##                     "spongiotrophoblast layer development"
##                     "cell fate determination"
##                     "ovulation cycle process"
##                     "secondary heart field specification"
##                     "recruitment of 3'-end processing factors to RNA polymerase II holoenzyme complex"
##                     "animal organ senescence"
##                     "regulation of endothelial cell migration"
##                     "positive regulation of interleukin-23 production"
##                     "organic acid metabolic process"
##                     "DNA deamination"
##                     "regulation of neurotransmitter uptake"
##                     "trigeminal nerve structural organization"
##                     "positive regulation of Wnt protein secretion"
##                     "neuroligin clustering involved in postsynaptic membrane assembly"
##                     "positive regulation of dendrite development"
##                     "development of primary female sexual characteristics"
##                     "positive regulation of meiotic nuclear division"
##                     "regulation of synapse assembly"
##                     "transepithelial water transport"
##                     "negative regulation of protein refolding"
##                     "negative regulation of muscle atrophy"
##                     "negative regulation of heterotypic cell-cell adhesion"
##                     "endocrine signaling"
##                     "cell surface pattern recognition receptor signaling pathway"
##                     "regulation of histone phosphorylation"
##                     "serotonin metabolic process"
##                     "cell cycle G2/M phase transition"
##                     "negative regulation of response to cytokine stimulus"
##                     "regulation of lens fiber cell differentiation"
##                     "antral ovarian follicle growth"
##                     "retina development in camera-type eye"
##                     "Notch signaling involved in heart development"
##                     "regulation of osteoclast differentiation"
##                     "calcium-dependent cell-matrix adhesion"
##                     "phospholipase D-activating G protein-coupled receptor signaling pathway"
##                     "peptidyl-tyrosine autophosphorylation"
##                     "protein kinase C deactivation"
##                     "rhythmic excitation"
##                     "regulation of female gonad development"
##                     "negative regulation of very-low-density lipoprotein particle remodeling"
##                     "telencephalon cell migration"
##                     "nitric oxide homeostasis"
##                     "positive regulation of renin secretion into blood stream"
##                     "CD8-positive, alpha-beta T cell differentiation"
##                     "histone H2A K63-linked ubiquitination"
##                     "positive regulation of RIG-I signaling pathway"
##                     "growth plate cartilage chondrocyte growth"
##                     "regulation of phosphatidylcholine catabolic process"
##                     "positive regulation of CD8-positive, alpha-beta T cell differentiation"
##                     "lens induction in camera-type eye"
##                     "endothelial cell proliferation"
##                     "response to methylglyoxal"
```

```
##                    "negative regulation of histone H3-K27 acetylation"
##                    "T cell antigen processing and presentation"
##                    "Golgi vesicle fusion to target membrane"
##                    "extraocular skeletal muscle development"
##                    "positive regulation of phospholipase A2 activity"
##                    "negative regulation of establishment of endothelial barrier"
##                    "otic vesicle formation"
##                    "cellular response to ionomycin"
##                    "positive regulation of ceramide biosynthetic process"
##                    "positive regulation of protein oligomerization"
##                    "response to prostaglandin F"
##                    "polarized epithelial cell differentiation"
##                    "positive regulation of chemokine-mediated signaling pathway"
##                    "negative regulation of integrin biosynthetic process"
##                    "negative regulation of prostatic bud formation"
##                    "regulation of phenotypic switching by transcription from RNA polymerase II promot
##                    "positive regulation of hydrogen sulfide biosynthetic process"
##                    "male somatic sex determination"
##                    "activation of prostate induction by androgen receptor signaling pathway"
##                    "response to intra-S DNA damage checkpoint signaling"
##                    "secretion"
##                    "positive regulation of CD4-positive, alpha-beta T cell differentiation"
##                    "basement membrane assembly"
##                    "regulation of odontoblast differentiation"
##                    "positive regulation of cell-cell adhesion mediated by cadherin"
##                    "positive regulation of transcription from RNA polymerase II promoter involved in s
##                    "smooth muscle cell proliferation"
##                    "positive regulation of NLRP3 inflammasome complex assembly"
##                    "regulation of RNA biosynthetic process"
##                    "maternal process involved in parturition"
##                    "postsynapse to nucleus signaling pathway"
##                    "salivary gland development"
##                    "establishment of localization in cell"
##                    "nucleolus organization"
##                    "JNK cascade"
##                    "negative regulation of vascular associated smooth muscle cell apoptotic process"
##                    "progesterone receptor signaling pathway"
##                    "B cell lineage commitment"
##                    "cell differentiation involved in kidney development"
##                    "positive regulation of postsynaptic cytosolic calcium concentration"
##                    "spine apparatus assembly"
##                    "regulation of blood vessel remodeling"
##                    "negative regulation of granulocyte differentiation"
##                    "necroptotic signaling pathway"
##                    "mitotic DNA replication initiation"
##                    "synthesis of RNA primer involved in mitotic DNA replication"
##                    "DNA synthesis involved in UV-damage excision repair"
##                    "plasma membrane repair"
##                    "regulation of lysosome organization"
##                    "positive regulation of transcription factor catabolic process"
##                    "pre-replicative complex assembly involved in nuclear cell cycle DNA replication"
##                    "chiasma assembly"
##                    "regulation of protein stability"
##                    "regulation of defense response to virus by virus"
```

```
##                    "angiotensin-mediated vasoconstriction involved in regulation of systemic arterial
##                    "alpha-beta T cell lineage commitment"
##                    "trabecula morphogenesis"
##                    "mitotic cleavage furrow formation"
##                    "positive regulation of vascular smooth muscle contraction"
##                    "canonical Wnt signaling pathway involved in midbrain dopaminergic neuron different
##                    "cell surface receptor signaling pathway involved in cell-cell signaling"
##                    "regulation of cAMP-mediated signaling"
##                    "cellular lipid metabolic process"
##                    "positive regulation of dendritic cell dendrite assembly"
##                    "negative regulation of integrin-mediated signaling pathway"
##                    "negative regulation of plasminogen activation"
##                    "histone H3-R2 methylation"
##                    "positive regulation of inhibitory G protein-coupled receptor phosphorylation"
##                    "planar cell polarity pathway involved in axis elongation"
##                    "lymphocyte aggregation"
##                    "positive regulation of protein processing"
##                    "late endosome to vacuole transport"
##                    "trans-synaptic signaling by trans-synaptic complex, modulating synaptic transmiss
##                    "bile acid signaling pathway"
##                    "cloacal septation"
##                    "mammary gland morphogenesis"
##                    "complement activation, lectin pathway"
##                    "negative regulation of NAD(P)H oxidase activity"
##                    "retrograde trans-synaptic signaling by endocannabinoid"
##                    "clathrin-coated pit assembly"
##                    "anatomical structure development"
##                    "positive regulation of sarcomere organization"
##                    "response to aldosterone"
##                    "regulation of T cell chemotaxis"
##                    "positive regulation of cell proliferation by VEGF-activated platelet derived grow
##                    "desmosome organization"
##                    "ovulation"
##                    "cellular response to vitamin E"
##                    "negative regulation of vascular endothelial growth factor signaling pathway"
##                    "positive regulation of CD8-positive, alpha-beta T cell proliferation"
##                    "spinal cord association neuron differentiation"
##                    "embryo implantation"
##                    "negative regulation of biomineral tissue development"
##                    "lymphocyte homeostasis"
##                    "multivesicular body sorting pathway"
##                    "intramembranous ossification"
##                    "chylomicron remnant clearance"
##                    "sperm chromatin condensation"
##                    "tolerance induction"
##                    "smoothened signaling pathway involved in ventral spinal cord interneuron specifica
##                    "smoothened signaling pathway involved in spinal cord motor neuron cell fate speci
##                    "interkinetic nuclear migration"
##                    "negative regulation of amyloid precursor protein biosynthetic process"
##                    "positive regulation of T-helper 17 type immune response"
##                    "negative regulation of chromatin binding"
##                    "positive regulation of chromosome segregation"
##                    "cell aging"
##                    "female genitalia morphogenesis"
```

```
##                      "positive regulation of hydrolase activity"
##                      "positive regulation of T-helper 1 cell cytokine production"
##                      "Kit signaling pathway"
##                      "cellular response to UV"
##                      "regulation of synapse structural plasticity"
##                      "lymphocyte chemotaxis across high endothelial venule"
##                      "regulation of humoral immune response"
##                      "regulation of fever generation"
##                      "enteric smooth muscle cell differentiation"
##                      "endothelial cell chemotaxis to fibroblast growth factor"
##                      "cellular response to light stimulus"
##                      "response to endothelin"
##                      "negative regulation of endothelial cell chemotaxis to fibroblast growth factor"
##                      "response to starvation"
##                      "regulation of protein catabolic process at postsynapse, modulating synaptic trans
##                      "positive regulation of dendritic cell differentiation"
##                      "regulation of translational elongation"
##                      "histone dephosphorylation"
##                      "regulation of keratinocyte differentiation"
##                      "re-entry into mitotic cell cycle"
##                      "miRNA catabolic process"
##                      "cellular phosphate ion homeostasis"
##                      "regulation of glycogen biosynthetic process"
##                      "nucleokinesis involved in cell motility in cerebral cortex radial glia guided mig
##                      "positive regulation of T-helper 1 type immune response"
##                      "Sertoli cell fate commitment"
##                      "positive regulation of DNA methylation"
##                      "axonal transport of mitochondrion"
##                      "positive regulation of peroxisome proliferator activated receptor signaling pathw
##                      "T cell activation via T cell receptor contact with antigen bound to MHC molecule
##                      "negative regulation of neuron maturation"
##                      "secretion of lysosomal enzymes"
##                      "selenocysteine incorporation"
##                      "olfactory learning"
##                      "positive regulation of heart rate by epinephrine-norepinephrine"
##                      "positive regulation of the force of heart contraction by epinephrine-norepinephri
##                      "histone H3-T11 phosphorylation"
##                      "positive regulation of mast cell degranulation"
##                      "negative regulation of mitotic metaphase/anaphase transition"
##                      "regulation of systemic arterial blood pressure by circulatory renin-angiotensin"
##                      "angiotensin-mediated vasodilation involved in regulation of systemic arterial blo
##                      "brain renin-angiotensin system"
##                      "aldosterone secretion"
##                      "apelin receptor signaling pathway"
##                      "positive regulation of G protein-coupled receptor internalization"
##                      "positive regulation of myoblast proliferation"
##                      "negative regulation of netrin-activated signaling pathway"
##                      "covalent chromatin modification"
##                      "lymph node development"
##                      "hair follicle development"
##                      "regulation of branching involved in mammary gland duct morphogenesis"
##                      "regulation of metanephric nephron tubule epithelial cell differentiation"
##                      "response to sodium phosphate"
##                      "regulation of B cell receptor signaling pathway"
```

```
##                     "sodium ion homeostasis"
##                     "protein localization to membrane"
##                     "chorio-allantoic fusion"
##                     "positive regulation of cardioblast differentiation"
##                     "negative regulation of SREBP signaling pathway"
##                     "histone H2A-K119 monoubiquitination"
##                     "negative regulation of calcium ion transmembrane transport via high voltage-gated
##                     "positive regulation of activation of membrane attack complex"
##                     "positive regulation of male gonad development"
##                     "positive regulation of nucleoside transport"
##                     "negative regulation of neurotrophin production"
##                     "eukaryotic translation initiation factor 4F complex assembly"
##                     "conditioned place preference"
##                     "negative regulation of lipid transport"
##                     "cytoplasmic sequestering of transcription factor"
##                     "positive regulation of locomotion"
##                     "epithelial structure maintenance"
##                     "N-terminal peptidyl-serine acetylation"
##                     "N-terminal peptidyl-glutamic acid acetylation"
##                     "toxin metabolic process"
##                     "negative regulation of sequestering of triglyceride"
##                     "steroid hormone mediated signaling pathway"
##                     "detection of lipopolysaccharide"
##                     "positive regulation of tolerance induction to self antigen"
##                     "positive regulation of B cell tolerance induction"
##                     "negative regulation of hydrolase activity"
##                     "cell proliferation involved in endocardial cushion morphogenesis"
##                     "superior endocardial cushion morphogenesis"
##                     "inferior endocardial cushion morphogenesis"
##                     "post-embryonic cardiac muscle cell growth involved in heart morphogenesis"
##                     "positive regulation of chromatin silencing at telomere"
##                     "positive regulation of telomeric heterochromatin assembly"
##                     "ion homeostasis"
##                     "monocyte aggregation"
##                     "response to fungicide"
##                     "skeletal muscle satellite cell migration"
##                     "positive regulation of microtubule plus-end binding"
##                     "high-density lipoprotein particle clearance"
##                     "CD8-positive, alpha-beta intraepithelial T cell differentiation"
##                     "establishment of apical/basal cell polarity"
##                     "meiotic chromosome separation"
##                     "transcriptional open complex formation at RNA polymerase II promoter"
##                     "negative regulation of plasma membrane long-chain fatty acid transport"
##                     "forebrain dorsal/ventral pattern formation"
##                     "cellular triglyceride homeostasis"
##                     "positive regulation of long-term neuronal synaptic plasticity"
##                     "regulation of extracellular exosome assembly"
##                     "lateral ventricle development"
##                     "multicellular organismal homeostasis"
##                     "cellular hyperosmotic response"
##                     "interleukin-4 secretion"
##                     "vitellogenesis"
##                     "peripheral nervous system development"
##                     "establishment of protein localization to telomere"
```

```
##                    "regulation of modification of postsynaptic actin cytoskeleton"
##                    "positive regulation of integrin biosynthetic process"
##                    "antimicrobial humoral immune response mediated by antimicrobial peptide"
##                    "antigen processing and presentation of exogenous peptide antigen via MHC class I,
##                    "positive regulation of MHC class II biosynthetic process"
##                    "prostate epithelial cord elongation"
##                    "negative regulation of protein import into nucleus"
##                    "JAK-STAT cascade involved in growth hormone signaling pathway"
##                    "histone H3-R17 methylation"
##                    "positive regulation of eosinophil degranulation"
##                    "negative regulation of skeletal muscle tissue development"
##                    "positive regulation of hypersensitivity"
##                    "response to corticosteroid"
##                    "chemokine (C-C motif) ligand 19 signaling pathway"
##                    "chemokine (C-C motif) ligand 21 signaling pathway"
##                    "regulation of fibroblast growth factor receptor signaling pathway"
##                    "positive regulation of vascular permeability"
##                    "positive regulation of vacuole organization"
##                    "canonical Wnt signaling pathway involved in positive regulation of cardiac outflo
##                    "cellular response to prostaglandin stimulus"
##                    "lymphocyte migration into lymph node"
##                    "positive regulation of protein localization to presynapse"
##                    "positive regulation of immunological synapse formation"
##                    "positive regulation of T cell costimulation"
##                    "positive regulation of glycoprotein biosynthetic process involved in immunologica
##                    "regulation of dendritic cell dendrite assembly"
##                    "poly-N-acetyllactosamine biosynthetic process"
##                    "histone H3-K9 acetylation"
##                    "positive regulation of cholesterol biosynthetic process"
##                    "negative regulation of mitotic cell cycle, embryonic"
##                    "regulation of timing of cell differentiation"
##                    "positive regulation of transforming growth factor beta production"
##                    "positive regulation of secondary heart field cardioblast proliferation"
##                    "atrial septum primum morphogenesis"
##                    "regulation of developmental growth"
##                    "myoblast fate commitment"
##                    "regulation of defense response to virus"
##                    "neural crest cell migration"
##                    "regulation of endoribonuclease activity"
##                    "regulation of eIF2 alpha phosphorylation by dsRNA"
##                    "regulation of mRNA stability involved in cellular response to UV"
##                    "positive regulation of mRNA catabolic process"
##                    "regulation of cell cycle arrest"
##                    "receptor-mediated virion attachment to host cell"
##                    "monounsaturated fatty acid biosynthetic process"
##                    "embryonic retina morphogenesis in camera-type eye"
##                    "positive regulation of respiratory burst involved in inflammatory response"
##                    "sensory perception of chemical stimulus"
##                    "negative regulation of macrophage derived foam cell differentiation"
##                    "negative regulation of cell differentiation"
##                    "regulation of nitric-oxide synthase activity"
##                    "ciliary receptor clustering involved in smoothened signaling pathway"
##                    "cardiac muscle tissue regeneration"
##                    "mismatch repair"
```

```
##                      "cell proliferation in hindbrain"
##                      "negative regulation of Schwann cell migration"
##                      "negative regulation of root hair elongation"
##                      "negative regulation of Schwann cell proliferation involved in axon regeneration"
##                      "branching involved in prostate gland morphogenesis"
##                      "positive regulation of vascular endothelial growth factor signaling pathway"
##                      "nuclear body organization"
##                      "positive regulation of G protein-coupled receptor signaling pathway"
##                      "regulation of plasminogen activation"
##                      "Roundabout signaling pathway"
##                      "negative regulation of development of symbiont involved in interaction with host"
##                      "catabolism by host of symbiont protein"
##                      "positive regulation of low-density lipoprotein particle receptor binding"
##                      "positive regulation of low-density lipoprotein receptor activity"
##                      "protein palmitoylation"
##                      "regulation of lymphocyte activation"
##                      "positive regulation of RNA splicing"
##                      "cytoplasmic mRNA processing body assembly"
##                      "positive regulation of lipase activity"
##                      "general adaptation syndrome, behavioral process"
##                      "interleukin-35-mediated signaling pathway"
##                      "negative regulation of protein localization to microtubule"
##                      "positive regulation of macrophage apoptotic process"
##                      "DNA packaging"
##                      "dolichyl diphosphate biosynthetic process"
##                      "positive regulation of establishment of protein localization"
##                      "complement component C5a signaling pathway"
##                      "sensitization"
##                      "beta selection"
##                      "positive regulation of mRNA polyadenylation"
##                      "cation transport"
##                      "positive regulation of toll-like receptor 2 signaling pathway"
##                      "regulation of fibroblast proliferation"
##                      "regulation of long-term synaptic potentiation"
##                      "folate import across plasma membrane"
##                      "regulation of membrane repolarization during action potential"
##                      "positive regulation of adiponectin secretion"
##                      "negative regulation of protein deubiquitination"
##                      "bone resorption"
##                      "maintenance of epithelial cell apical/basal polarity"
##                      "somatic stem cell division"
##                      "positive regulation of synaptic transmission, cholinergic"
##                      "regulation of vesicle size"
##                      "negative regulation of activation of membrane attack complex"
##                      "protein localization to photoreceptor outer segment"
##                      "inner cell mass cellular morphogenesis"
##                      "positive regulation of CREB transcription factor activity"
##                      "piecemeal microautophagy of the nucleus"
##                      "regulation of metanephros size"
##                      "positive regulation of B cell chemotaxis"
##                      "urinary bladder smooth muscle contraction"
##                      "lung growth"
##                      "regulation of lymphocyte apoptotic process"
##                      "cytolysis by host of symbiont cells"
```

```
##                     "olfactory bulb interneuron differentiation"
##                     "tumor necrosis factor production"
##                     "positive regulation of interleukin-10 secretion"
##                     "post-chaperonin tubulin folding pathway"
##                     "histone H3-K9 demethylation"
##                     "RNA transport"
##                     "negative regulation of triglyceride biosynthetic process"
##                     "peripheral nervous system neuron development"
##                     "inner ear receptor cell stereocilium organization"
##                     "negative regulation of DNA methylation"
##                     "activation of store-operated calcium channel activity"
##                     "regulation of Golgi organization"
##                     "retinal cone cell development"
##                     "sensory perception of bitter taste"
##                     "regulation of triglyceride biosynthetic process"
##                     "positive regulation of metalloendopeptidase activity"
##                     "regulation of high voltage-gated calcium channel activity"
##                     "positive regulation of glial cell migration"
##                     "glycosaminoglycan metabolic process"
##                     "platelet activating factor metabolic process"
##                     "regulation of substrate adhesion-dependent cell spreading"
##                     "negative regulation of smooth muscle cell proliferation"
##                     "cellular response to selenite ion"
##                     "negative regulation of selenocysteine incorporation"
##                     "negative regulation of selenocysteine insertion sequence binding"
##                     "positive regulation of acetylcholine secretion, neurotransmission"
##                     "glial cell apoptotic process"
##                     "negative regulation of neurotransmitter secretion"
##                     "pericardium morphogenesis"
##                     "regulation of serotonin secretion"
##                     "regulation of odontogenesis of dentin-containing tooth"
##                     "regulation of glucose import"
##                     "lung epithelial cell differentiation"
##                     "endocrine pancreas development"
##                     "regulation of wound healing"
##                     "positive regulation of interleukin-1 alpha biosynthetic process"
##                     "positive regulation of mRNA cleavage"
##                     "late nucleophagy"
##                     "snoRNA localization"
##                     "positive regulation of pro-B cell differentiation"
##                     "chemokine (C-C motif) ligand 2 secretion"
##                     "epithelial cell differentiation involved in prostate gland development"
##                     "negative regulation of toll-like receptor signaling pathway"
##                     "cell-cell junction organization"
##                     "retinal rod cell development"
##                     "positive regulation of interleukin-13 secretion"
##                     "negative regulation of microtubule binding"
##                     "global genome nucleotide-excision repair"
##                     "sensory perception of temperature stimulus"
##                     "negative regulation of mesoderm development"
##                     "chondrocyte development"
##                     "regulation of thyroid hormone mediated signaling pathway"
##                     "positive regulation of type IIa hypersensitivity"
##                     "glucocorticoid metabolic process"
```

```
##                     "vesicle budding from membrane"
##                     "basophil differentiation"
##                     "negative regulation of vascular smooth muscle cell differentiation involved in ph
##                     "TRAIL-activated apoptotic signaling pathway"
##                     "germinal center formation"
##                     "camera-type eye morphogenesis"
##                     "septum digestion after cytokinesis"
##                     "regulation of p38MAPK cascade"
##                     "glucocorticoid biosynthetic process"
##                     "regulation of skeletal muscle satellite cell proliferation"
##                     "positive regulation of saliva secretion"
##                     "epithelium development"
##                     "DNA damage response, detection of DNA damage"
##                     "positive regulation of gastric acid secretion"
##                     "regulation of ubiquitin-dependent protein catabolic process"
##                     "positive regulation of vasculogenesis"
##                     "regulation of isotype switching"
##                     "motor behavior"
##                     "dendrite self-avoidance"
##                     "regulation of dendrite development"
##                     "regulation of RNA polymerase II regulatory region sequence-specific DNA binding"
##                     "glandular epithelial cell development"
##                     "response to mechanical stimulus"
##                     "positive regulation of interleukin-18 production"
##                     "canonical Wnt signaling pathway involved in negative regulation of apoptotic proc
##                     "negative regulation of collateral sprouting"
##                     "tertiary branching involved in mammary gland duct morphogenesis"
##                     "negative regulation of humoral immune response mediated by circulating immunoglobu
##                     "negative regulation of circadian sleep/wake cycle, REM sleep"
##                     "optic cup formation involved in camera-type eye development"
##                     "establishment of planar polarity of embryonic epithelium"
##                     "type II pneumocyte differentiation"
##                     "cochlea development"
##                     "negative regulation of hepatocyte proliferation"
##                     "positive regulation of MAPKKK cascade by fibroblast growth factor receptor signali
##                     "membrane raft assembly"
##                     "glial cell-derived neurotrophic factor receptor signaling pathway"
##                     "phosphatidylinositol-mediated signaling"
##                     "trachea cartilage development"
##                     "regulation of histamine secretion by mast cell"
##                     "positive regulation of potassium ion transport"
##                     "positive regulation of DNA binding"
##                     "negative regulation of guanyl-nucleotide exchange factor activity"
##                     "regulation of heart rate by chemical signal"
##                     "positive regulation of epithelial cell proliferation involved in prostate gland d
##                     "cerebellar Purkinje cell layer morphogenesis"
##                     "negative regulation of non-canonical Wnt signaling pathway"
##                     "isotype switching to IgA isotypes"
##                     "DN2 thymocyte differentiation"
##                     "DN3 thymocyte differentiation"
##                     "regulation of transcription by RNA polymerase III"
##                     "long-chain fatty acid transport"
##                     "response to external biotic stimulus"
##                     "regulation of angiotensin metabolic process"
```

```
##                      "prostatic bud formation"
##                      "ovulation from ovarian follicle"
##                      "positive regulation of transcription regulatory region DNA binding"
##                      "lymphoid progenitor cell differentiation"
##                      "pre-B cell allelic exclusion"
##                      "positive regulation of neuron maturation"
##                      "regulation of SMAD protein complex assembly"
##                      "protein modification process"
##                      "negative regulation of alpha-beta T cell proliferation"
##                      "positive regulation of nitric-oxide synthase biosynthetic process"
##                      "cellular response to muramyl dipeptide"
##                      "regulation of protein deubiquitination"
##                      "regulation of oxidative stress-induced neuron intrinsic apoptotic signaling pathwa
##                      "positive regulation of myofibroblast differentiation"
##                      "toll-like receptor signaling pathway"
##                      "regulation of actin polymerization or depolymerization"
##                      "negative regulation of lymphocyte proliferation"
##                      "positive regulation of humoral immune response"
##                      "regulation of glomerular filtration"
##                      "production of molecular mediator involved in inflammatory response"
##                      "very-low-density lipoprotein particle clearance"
##                      "positive regulation of vitamin D 24-hydroxylase activity"
##                      "cardiac ventricle development"
##                      "regulation of peptidyl-serine phosphorylation"
##                      "synaptonemal complex assembly"
##                      "negative regulation of microtubule polymerization or depolymerization"
##                      "positive regulation of corticotropin-releasing hormone secretion"
##                      "lamellipodium organization"
##                      "myeloid progenitor cell differentiation"
##                      "toll-like receptor 3 signaling pathway"
##                      "histone H3-K36 demethylation"
##                      "positive regulation of peptidyl-tyrosine autophosphorylation"
##                      "positive regulation of endothelial cell apoptotic process"
##                      "positive regulation of corticosterone secretion"
##                      "central nervous system neuron development"
##                      "retina vasculature development in camera-type eye"
##                      "growth plate cartilage chondrocyte morphogenesis"
##                      "negative regulation of viral entry into host cell"
##                      "regulation of systemic arterial blood pressure"
##                      "nitric oxide transport"
##                      "lung-associated mesenchyme development"
##                      "negative regulation of pinocytosis"
##                      "regulation of phosphatidylinositol dephosphorylation"
##                      "negative regulation of secretion by cell"
##                      "DNA strand elongation involved in DNA replication"
##                      "proteasome-mediated ubiquitin-dependent protein catabolic process"
##                      "cellular response to diamide"
##                      "regulation of chromosome condensation"
##                      "receptor-mediated endocytosis of virus by host cell"
##                      "regulation of extracellular matrix assembly"
##                      "regulation of locomotor rhythm"
##                      "positive regulation of dendritic cell apoptotic process"
##                      "negative regulation of inflammatory response to antigenic stimulus"
##                      "positive regulation of double-strand break repair via nonhomologous end joining"
```

```
##                    "cell morphogenesis"
##                    "nucleolar fragmentation"
##                    "microtubule cytoskeleton organization involved in establishment of planar polarity
##                    "cellular response to angiotensin"
##                    "positive regulation of establishment of endothelial barrier"
##                    "positive regulation of sodium ion transport"
##                    "positive regulation of activated T cell proliferation"
##                    "positive regulation of cell cycle G2/M phase transition"
##                    "response to peptide hormone"
##                    "COPII vesicle coating"
##                    "regulation of long-term synaptic depression"
##                    "negative regulation of leukocyte chemotaxis"
##                    "hormone biosynthetic process"
##                    "positive regulation of mRNA binding"
##                    "positive regulation of skeletal muscle tissue growth"
##                    "regulation of ERK1 and ERK2 cascade"
##                    "positive regulation of organelle organization"
##                    "regulation of cyclase activity"
##                    "negative regulation of locomotion"
##                    "establishment of spindle orientation"
##                    "positive regulation of small intestinal transit"
##                    "pro-B cell differentiation"
##                    "respiratory system process"
##                    "regulation of gastric motility"
##                    "maintenance of gastrointestinal epithelium"
##                    "otic vesicle development"
##                    "negative regulation of DNA repair"
##                    "response to TNF agonist"
##                    "positive regulation of DNA N-glycosylase activity"
##                    "positive regulation of cysteine-type endopeptidase activity involved in execution
##                    "detection of visible light"
##                    "neurogenesis"
##                    "heterochromatin organization"
##                    "protein localization to postsynaptic membrane"
##                    "metanephric mesenchyme morphogenesis"
##                    "regulation of type I interferon production"
##                    "histone H3-K9 methylation"
##                    "positive regulation of hematopoietic stem cell migration"
##                    "retrograde neuronal dense core vesicle transport"
##                    "ubiquitin-dependent SMAD protein catabolic process"
##                    "positive regulation of lymphocyte proliferation"
##                    "negative regulation of cartilage development"
##                    "negative regulation of type I interferon-mediated signaling pathway"
##                    "positive regulation of synapse structural plasticity"
##                    "positive regulation of synaptic vesicle clustering"
##                    "protein kinase A signaling"
##                    "regulation of pathway-restricted SMAD protein phosphorylation"
##                    "positive regulation of protein localization to plasma membrane"
##                    "sexual reproduction"
##                    "acid secretion"
##                    "organelle transport along microtubule"
##                    "proteasomal ubiquitin-independent protein catabolic process"
##                    "negative regulation of interleukin-1-mediated signaling pathway"
##                    "caveola assembly"
```

```
##                      "oligosaccharide metabolic process"
##                      "squamous basal epithelial stem cell differentiation involved in prostate gland ac
##                      "leukocyte activation"
##                      "neutrophil apoptotic process"
##                      "positive regulation of epidermis development"
##                      "negative regulation of blood vessel endothelial cell proliferation involved in sp
##                      "histone H3-Y41 phosphorylation"
##                      "regulation of osteoblast proliferation"
##                      "bone remodeling"
##                      "adenylate cyclase-activating adrenergic receptor signaling pathway"
##                      "posttranscriptional tethering of RNA polymerase II gene DNA at nuclear periphery"
##                      "positive regulation of phosphorylation"
##                      "negative regulation of mRNA 3'-end processing"
##                      "lipoprotein metabolic process"
##                      "chromatin silencing at rDNA"
##                      "cardiac ventricle morphogenesis"
##                      "regulation of striated muscle contraction"
##                      "calcium ion regulated exocytosis"
##                      "membrane assembly"
##                      "positive regulation of chemokine secretion"
##                      "positive regulation of glucagon secretion"
##                      "negative regulation of double-strand break repair via homologous recombination"
##                      "cardiac neural crest cell migration involved in outflow tract morphogenesis"
##                      "cAMP metabolic process"
##                      "iron ion import"
##                      "negative regulation of fatty acid beta-oxidation"
##                      "post-embryonic body morphogenesis"
##                      "lamellipodium morphogenesis"
##                      "regulation of parathyroid hormone secretion"
##                      "notochord development"
##                      "calcium-mediated signaling using extracellular calcium source"
##                      "smooth muscle tissue development"
##                      "progesterone biosynthetic process"
##                      "peptidyl-serine ADP-ribosylation"
##                      "maintenance of transcriptional fidelity during DNA-templated transcription elonga
##                      "negative regulation of actin filament bundle assembly"
##                      "positive regulation of somatostatin secretion"
##                      "positive regulation of circadian sleep/wake cycle, sleep"
##                      "negative regulation of low-density lipoprotein particle receptor catabolic proces
##                      "filopodium assembly"
##                      "histone H3-K4 demethylation"
##                      "positive regulation of axon extension involved in axon guidance"
##                      "positive regulation of female receptivity"
##                      "regulation of GTPase activity"
##                      "cellular macromolecule biosynthetic process"
##                      "programmed necrotic cell death"
##                      "olfactory bulb interneuron development"
##                      "axis elongation involved in somitogenesis"
##                      "protein K29-linked ubiquitination"
##                      "positive regulation of phagocytosis"
##                      "maintenance of protein location in nucleus"
##                      "regulation of lymphocyte differentiation"
##                      "pulmonary artery morphogenesis"
##                      "cellular response to Thyroglobulin triiodothyronine"
```

```
##                     "peptidyl-lysine hydroxylation"
##                     "inner cell mass cell fate commitment"
##                     "protein localization to cytoskeleton"
##                     "positive regulation of gastrulation"
##                     "viral budding via host ESCRT complex"
##                     "cellular response to peptide"
##                     "hindgut morphogenesis"
##                     "3'-UTR-mediated mRNA destabilization"
##                     "regulation of muscle cell differentiation"
##                     "establishment or maintenance of cell polarity"
##                     "regulation of definitive erythrocyte differentiation"
##                     "positive regulation of gamma-aminobutyric acid secretion"
##                     "regulation of transcription from RNA polymerase II promoter in response to oxidat
##                     "positive regulation of chondrocyte proliferation"
##                     "cytokine production involved in inflammatory response"
##                     "mitochondrion transport along microtubule"
##                     "histamine secretion by mast cell"
##                     "radial glial cell differentiation"
##                     "orbitofrontal cortex development"
##                     "forelimb morphogenesis"
##                     "histone H4-K12 acetylation"
##                     "adenylate cyclase-inhibiting adrenergic receptor signaling pathway"
##                     "phospholipase C-activating adrenergic receptor signaling pathway"
##                     "musculoskeletal movement, spinal reflex action"
##                     "T cell receptor V(D)J recombination"
##                     "cardiac muscle tissue growth involved in heart morphogenesis"
##                     "tyrosine phosphorylation of STAT protein"
##                     "cell-substrate adhesion"
##                     "cell motility"
##                     "positive regulation of protein monoubiquitination"
##                     "negative regulation of growth"
##                     "negative regulation of protein transport"
##                     "protein localization to basolateral plasma membrane"
##                     "wound healing, spreading of epidermal cells"
##                     "extracellular matrix-cell signaling"
##                     "multicellular organismal water homeostasis"
##                     "spindle assembly involved in meiosis"
##                     "negative regulation of DNA-templated transcription, elongation"
##                     "regulation of glucosylceramidase activity"
##                     "neural tube development"
##                     "protein sulfation"
##                     "regulation of attachment of spindle microtubules to kinetochore"
##                     "regulation of DNA recombination"
##                     "regulation of branching involved in salivary gland morphogenesis by mesenchymal-ep
##                     "neutrophil mediated killing of gram-negative bacterium"
##                     "developmental pigmentation"
##                     "negative regulation of phagocytosis"
##                     "positive regulation of timing of catagen"
##                     "negative regulation of growth hormone secretion"
##                     "regulation of presynaptic cytosolic calcium ion concentration"
##                     "keratan sulfate catabolic process"
##                     "regulation of cellular ketone metabolic process by negative regulation of transcri
##                     "positive regulation of leukocyte adhesion to vascular endothelial cell"
##                     "hepatocyte apoptotic process"
```

```
##                      "negative regulation of cholesterol storage"
##                      "regulation of metabolic process"
##                      "negative regulation of membrane tubulation"
##                      "blastocyst growth"
##                      "positive regulation of autophagy"
##                      "regulation of saliva secretion"
##                      "regulation of histone H3-K4 methylation"
##                      "response to UV"
##                      "positive regulation of base-excision repair"
##                      "renin secretion into blood stream"
##                      "negative regulation of striated muscle tissue development"
##                      "regulation of T cell migration"
##                      "regulation of cell communication by electrical coupling involved in cardiac condu
##                      "bicellular tight junction assembly"
##                      "ruffle assembly"
##                      "heparin biosynthetic process"
##                      "piRNA metabolic process"
##                      "apical junction assembly"
##                      "negative regulation of cytolysis"
##                      "negative regulation of osteoclast development"
##                      "negative regulation of calcineurin-NFAT signaling cascade"
##                      "positive regulation of polynucleotide adenylyltransferase activity"
##                      "histone H3-K9 trimethylation"
##                      "forebrain astrocyte development"
##                      "corpus callosum morphogenesis"
##                      "negative regulation of interleukin-1 beta secretion"
##                      "regulation of oligodendrocyte progenitor proliferation"
##                      "intracellular mRNA localization"
##                      "mitotic cell cycle phase transition"
##                      "phospholipase C-activating serotonin receptor signaling pathway"
##                      "frontal suture morphogenesis"
##                      "male mating behavior"
##                      "lung epithelium development"
##                      "cellular response to lithium ion"
##                      "prostate gland growth"
##                      "gamma-tubulin complex localization"
##                      "positive regulation of mitochondrial outer membrane permeabilization involved in a
##                      "triglyceride catabolic process"
##                      "regulation of neuron differentiation"
##                      "somite specification"
##                      "histone H3-T6 phosphorylation"
##                      "cross-receptor inhibition within G protein-coupled receptor heterodimer"
##                      "negative regulation of synaptic transmission"
##                      "positive regulation of calcium ion import across plasma membrane"
##                      "blastocyst formation"
##                      "positive regulation of cysteine-type endopeptidase activity"
##                      "spindle assembly involved in female meiosis I"
##                      "adherens junction assembly"
##                      "endocytic recycling"
##                      "head development"
##                      "negative regulation of Wnt protein secretion"
##                      "cortical cytoskeleton organization"
##                      "modulation of excitatory postsynaptic potential"
##                      "negative regulation of endothelial cell migration"
```

```
##                     "animal organ formation"
##                     "positive regulation of adenylate cyclase activity"
##                     "regulation of DNA replication"
##                     "regulation of protein localization to centrosome"
##                     "cellular response to histamine"
##                     "regulation of single stranded viral RNA replication via double stranded DNA intern
##                     "positive regulation of cell adhesion molecule production"
##                     "positive regulation of activation of Janus kinase activity"
##                     "clustering of voltage-gated sodium channels"
##                     "regulation of chronic inflammatory response"
##                     "endocardial cushion to mesenchymal transition involved in heart valve formation"
##                     "protein localization to chromosome"
##                     "positive regulation of mitotic metaphase/anaphase transition"
##                     "histone H2A monoubiquitination"
##                     "regulation of short-term neuronal synaptic plasticity"
##                     "bone marrow development"
##                     "negative regulation of circadian sleep/wake cycle, sleep"
##                     "telomeric D-loop disassembly"
##                     "negative regulation by host of symbiont molecular function"
##                     "mammary gland epithelium development"
##                     "optic nerve morphogenesis"
##                     "prostate gland epithelium morphogenesis"
##                     "negative regulation of centrosome duplication"
##                     "neurotransmitter receptor internalization"
##                     "keratinocyte migration"
##                     "positive regulation of cap-independent translational initiation"
##                     "uropod organization"
##                     "regulation of mast cell activation"
##                     "establishment of spindle localization"
##                     "minus-end-directed vesicle transport along microtubule"
##                     "heparan sulfate proteoglycan biosynthetic process, enzymatic modification"
##                     "positive regulation of keratinocyte migration"
##                     "negative regulation of transposition"
##                     "neural plate axis specification"
##                     "positive regulation of DNA replication"
##                     "negative regulation of ATP biosynthetic process"
##                     "substrate adhesion-dependent cell spreading"
##                     "regulation of carbohydrate utilization"
##                     "cellular component maintenance"
##                     "decidualization"
##                     "regulation of translation at synapse, modulating synaptic transmission"
##                     "regulation of phenotypic switching"
##                     "positive regulation of I-kappaB phosphorylation"
##                     "positive regulation of cholangiocyte proliferation"
##                     "negative regulation of cholangiocyte apoptotic process"
##                     "positive regulation of granulosa cell proliferation"
##                     "positive regulation of skeletal muscle hypertrophy"
##                     "negative regulation of iodide transmembrane transport"
##                     "positive regulation of cytoplasmic translational initiation"
##                     "regulation of nephron tubule epithelial cell differentiation"
##                     "negative regulation of long-term synaptic depression"
##                     "positive regulation of alkaline phosphatase activity"
##                     "double-strand break repair via break-induced replication"
##                     "mitotic chromosome condensation"
```

```
##                      "positive regulation of glial cell-derived neurotrophic factor secretion"
##                      "regulation of spontaneous synaptic transmission"
##                      "positive regulation of astrocyte activation"
##                      "blood vessel morphogenesis"
##                      "corpus callosum development"
##                      "regulation of protein export from nucleus"
##                      "acrosome reaction"
##                      "negative regulation of muscle cell differentiation"
##                      "cardiac epithelial to mesenchymal transition"
##                      "mRNA destabilization"
##                      "lens fiber cell apoptotic process"
##                      "histamine secretion"
##                      "paracrine signaling"
##                      "neuron projection morphogenesis"
##                      "regulation of lipid catabolic process"
##                      "acute-phase response"
##                      "protein monoubiquitination"
##                      "negative regulation of lipid biosynthetic process"
##                      "positive regulation of lamellipodium morphogenesis"
##                      "microglia development"
##                      "fat cell differentiation"
##                      "positive regulation of cell activation"
##                      "neuronal signal transduction"
##                      "negative regulation of myoblast fusion"
##                      "digestive system development"
##                      "glial cell differentiation"
##                      "regulation of blood vessel endothelial cell migration"
##                      "epithelial fluid transport"
##                      "prostate epithelial cord arborization involved in prostate glandular acinus morphe
##                      "positive regulation of oocyte maturation"
##                      "auditory behavior"
##                      "photoperiodism"
##                      "interleukin-1 beta production"
##                      "B cell homeostasis"
##                      "actin nucleation"
##                      "positive regulation of long-term synaptic potentiation"
##                      "vascular smooth muscle cell development"
##                      "negative regulation of protein phosphorylation"
##                      "engulfment of apoptotic cell"
##                      "regulation of CD40 signaling pathway"
##                      "negative regulation of C-C chemokine binding"
##                      "gliogenesis"
##                      "regulation of interleukin-6 biosynthetic process"
##                      "positive regulation of attachment of spindle microtubules to kinetochore"
##                      "membrane bending"
##                      "positive regulation of single strand break repair"
##                      "regulation of cell differentiation"
##                      "collateral sprouting in absence of injury"
##                      "roof of mouth development"
##                      "positive regulation of mitotic cytokinetic process"
##                      "positive regulation of cell migration by vascular endothelial growth factor signal
##                      "hyperosmotic response"
##                      "interleukin-21-mediated signaling pathway"
##                      "regulation of muscle contraction"
```

```
##                  "regulation of epidermal cell division"
##                  "negative regulation of acute inflammatory response"
##                  "regulation of protein localization"
##                  "regulation of skeletal muscle fiber development"
##                  "immunological synapse formation"
##                  "response to activity"
##                  "positive regulation of cellular protein localization"
##                  "positive regulation of telomere maintenance"
##                  "reproduction"
##                  "positive regulation of skeletal muscle tissue development"
##                  "placenta blood vessel development"
##                  "synaptic vesicle to endosome fusion"
##                  "negative regulation of axon extension involved in axon guidance"
##                  "positive regulation of interleukin-5 secretion"
##                  "histone exchange"
##                  "synapse maturation"
##                  "regulation of telomerase activity"
##                  "muscle cell differentiation"
##                  "positive regulation of heart contraction"
##                  "double-strand break repair via alternative nonhomologous end joining"
##                  "lateral sprouting involved in mammary gland duct morphogenesis"
##                  "cerebellar cortex formation"
##                  "positive regulation of chromatin binding"
##                  "paraxial mesoderm formation"
##                  "positive regulation of axonogenesis"
##                  "regulation of centromeric sister chromatid cohesion"
##                  "positive regulation of heart rate by epinephrine"
##                  "negative regulation of sodium:proton antiporter activity"
##                  "translation"
##                  "dopaminergic neuron differentiation"
##                  "negative regulation of execution phase of apoptosis"
##                  "humoral immune response mediated by circulating immunoglobulin"
##                  "positive regulation of osteoclast differentiation"
##                  "detection of mechanical stimulus"
##                  "activation of cysteine-type endopeptidase activity"
##                  "semaphorin-plexin signaling pathway involved in axon guidance"
##                  "nuclear pore distribution"
##                  "formation of anatomical boundary"
##                  "negative regulation of vascular smooth muscle cell differentiation"
##                  "negative regulation of fibroblast apoptotic process"
##                  "regulation of endothelial tube morphogenesis"
##                  "plasma membrane organization"
##                  "male genitalia morphogenesis"
##                  "inflammatory response to antigenic stimulus"
##                  "axon midline choice point recognition"
##                  "positive regulation of wound healing, spreading of epidermal cells"
##                  "regulation of renal output by angiotensin"
##                  "positive regulation of hepatocyte proliferation"
##                  "epidermal cell fate specification"
##                  "inositol trisphosphate biosynthetic process"
##                  "netrin-activated signaling pathway"
##                  "embryonic morphogenesis"
##                  "endothelial tube morphogenesis"
##                  "natural killer cell activation"
```

```
##                     "positive regulation of chromatin silencing"
##                     "psychomotor behavior"
##                     "positive regulation of NAD(P)H oxidase activity"
##                     "negative regulation of transcription elongation from RNA polymerase II promoter"
##                     "cellular response to insulin-like growth factor stimulus"
##                     "response to bacterium"
##                     "positive regulation of circadian sleep/wake cycle, REM sleep"
##                     "negative regulation of blood vessel diameter"
##                     "neutrophil homeostasis"
##                     "establishment of cell polarity involved in ameboidal cell migration"
##                     "neurotrophin TRK receptor signaling pathway"
##                     "generation of ovulation cycle rhythm"
##                     "response to DNA damage checkpoint signaling"
##                     "receptor-mediated endocytosis involved in cholesterol transport"
##                     "dentate gyrus development"
##                     "positive regulation of protein homooligomerization"
##                     "regulation of DNA binding"
##                     "retinal blood vessel morphogenesis"
##                     "positive regulation of protein acetylation"
##                     "secretion by cell"
##                     "positive regulation of peptide secretion"
##                     "cellular response to norepinephrine stimulus"
##                     "mammary gland development"
##                     "histone H4 acetylation"
##                     "positive regulation of alpha-beta T cell differentiation"
##                     "cellular response to purine-containing compound"
##                     "positive regulation of cell death"
##                     "cell volume homeostasis"
##                     "actin filament organization"
##                     "negative regulation of tissue remodeling"
##                     "cell-cell junction maintenance"
##                     "uterine smooth muscle contraction"
##                     "positive regulation of L-lysine import across plasma membrane"
##                     "positive regulation of L-arginine import across plasma membrane"
##                     "regulation of DNA-templated transcription in response to stress"
##                     "cell cycle phase transition"
##                     "positive regulation of DNA damage response, signal transduction by p53 class media
##                     "cap-dependent translational initiation"
##                     "positive regulation of fatty acid beta-oxidation"
##                     "regulation of RNA export from nucleus"
##                     "chromosome separation"
##                     "positive regulation of endothelial cell chemotaxis to fibroblast growth factor"
##                     "posterior midgut development"
##                     "positive regulation of signal transduction"
##                     "exocrine pancreas development"
##                     "positive regulation of protein dephosphorylation"
##                     "negative regulation of glomerular filtration"
##                     "regulation of DNA-dependent DNA replication initiation"
##                     "positive regulation of endoplasmic reticulum stress-induced intrinsic apoptotic s
##                     "negative regulation of autophagy"
##                     "negative regulation of interleukin-2 biosynthetic process"
##                     "cellular response to low-density lipoprotein particle stimulus"
##                     "positive regulation of nucleic acid-templated transcription"
##                     "regulation of MAPK cascade"
```

```
##                     "wound healing, spreading of cells"
##                     "regulation of mitotic cell cycle spindle assembly checkpoint"
##                     "positive regulation of synaptic plasticity"
##                     "transposition, RNA-mediated"
##                     "synaptic transmission, GABAergic"
##                     "left/right axis specification"
##                     "negative regulation of type B pancreatic cell development"
##                     "positive regulation of cellular senescence"
##                     "MyD88-independent toll-like receptor signaling pathway"
##                     "chromatin assembly or disassembly"
##                     "astrocyte development"
##                     "positive regulation of T cell apoptotic process"
##                     "response to muscle activity involved in regulation of muscle adaptation"
##                     "N-acetylglucosamine metabolic process"
##                     "bronchus morphogenesis"
##                     "lens fiber cell development"
##                     "negative regulation of fibrinolysis"
##                     "positive regulation of NAD+ ADP-ribosyltransferase activity"
##                     "cardiac muscle cell development"
##                     "DNA-dependent DNA replication"
##                     "galanin-activated signaling pathway"
##                     "microtubule sliding"
##                     "cellular response to mineralocorticoid stimulus"
##                     "negative regulation of non-motile cilium assembly"
##                     "regulation of cell-substrate adhesion"
##                     "canonical Wnt signaling pathway involved in positive regulation of epithelial to m
##                     "cellular response to hydroperoxide"
##                     "establishment of RNA localization to telomere"
##                     "establishment of protein-containing complex localization to telomere"
##                     "positive regulation of telomerase catalytic core complex assembly"
##                     "cellular response to chemokine"
##                     "positive regulation of heparan sulfate proteoglycan biosynthetic process"
##                     "positive regulation of adipose tissue development"
##                     "positive regulation of glucose import"
##                     "paranodal junction assembly"
##                     "positive regulation of metanephric glomerulus development"
##                     "response to peptidoglycan"
##                     "limb bud formation"
##                     "ductus arteriosus closure"
##                     "positive regulation of inhibitory postsynaptic potential"
##                     "negative regulation of interferon-gamma production"
##                     "positive regulation of low-density lipoprotein particle clearance"
##                     "positive regulation of receptor-mediated endocytosis involved in cholesterol trans
##                     "regulation of extracellular matrix disassembly"
##                     "response to amino acid starvation"
##                     "regulation of phagocytosis"
##                     "extracellular structure organization"
##                     "epicardium morphogenesis"
##                     "megakaryocyte differentiation"
##                     "mammary gland branching involved in thelarche"
##                     "regulation of tumor necrosis factor-mediated signaling pathway"
##                     "negative regulation of glycogen (starch) synthase activity"
##                     "response to potassium ion"
##                     "response to acrylamide"
```

```
##                      "circadian regulation of translation"
##                      "regulation of myoblast differentiation"
##                      "positive regulation of interleukin-1 secretion"
##                      "negative regulation of smooth muscle cell differentiation"
##                      "negative regulation of endocytosis"
##                      "spinal cord development"
##                      "positive regulation of attachment of mitotic spindle microtubules to kinetochore"
##                      "positive regulation of protein glycosylation"
##                      "interleukin-27-mediated signaling pathway"
##                      "establishment of mitotic spindle localization"
##                      "negative regulation of potassium ion transport"
##                      "epithelial cell migration"
##                      "regulation of T cell proliferation"
##                      "positive regulation of voltage-gated chloride channel activity"
##                      "positive regulation of extracellular matrix constituent secretion"
##                      "cellular response to glucose starvation"
##                      "positive regulation of glycoprotein biosynthetic process"
##                      "negative regulation of chemokine-mediated signaling pathway"
##                      "SMAD protein complex assembly"
##                      "formation of radial glial scaffolds"
##                      "positive regulation of protein localization to kinetochore"
##                      "positive regulation of protein localization to membrane"
##                      "myoblast fusion"
##                      "low-density lipoprotein particle clearance"
##                      "positive regulation of blood pressure in other organism"
##                      "negative regulation of gastric emptying"
##                      "positive regulation of stomach fundus smooth muscle contraction"
##                      "snRNA export from nucleus"
##                      "heart looping"
##                      "layer formation in cerebral cortex"
##                      "positive regulation of translational fidelity"
##                      "TOR signaling"
##                      "regulation of mitotic centrosome separation"
##                      "angiotensin-mediated drinking behavior"
##                      "peptide hormone processing"
##                      "apolipoprotein A-I-mediated signaling pathway"
##                      "telomere tethering at nuclear periphery"
##                      "regulation of rhodopsin mediated signaling pathway"
##                      "mitochondrial DNA repair"
##                      "positive regulation of mRNA 3'-UTR binding"
##                      "negative regulation of receptor-mediated endocytosis"
##                      "regulation of synaptic transmission, glutamatergic"
##                      "positive regulation of I-kappaB kinase/NF-kappaB signaling"
##                      "macropinocytosis"
##                      "cellular response to carbon monoxide"
##                      "positive regulation of sodium:potassium-exchanging ATPase activity"
##                      "positive regulation of ATP-dependent microtubule motor activity, plus-end-directed
##                      "fibroblast proliferation"
##                      "growth plate cartilage development"
##                      "presynaptic modulation of chemical synaptic transmission"
##                      "lipoprotein biosynthetic process"
##                      "regulation of neuronal synaptic plasticity"
##                      "maturation of SSU-rRNA from tricistronic rRNA transcript (SSU-rRNA, 5.8S rRNA, LSU
##                      "prostaglandin biosynthetic process"
```

```
##                     "negative regulation of DNA endoreduplication"
##                     "regulation of I-kappaB kinase/NF-kappaB signaling"
##                     "positive regulation of cytokine production involved in immune response"
##                     "positive regulation of acute inflammatory response to non-antigenic stimulus"
##                     "response to sterol depletion"
##                     "positive regulation of stress-activated protein kinase signaling cascade"
##                     "positive regulation of mast cell proliferation"
##                     "regulation of monocyte chemotaxis"
##                     "regulation of peptide hormone secretion"
##                     "hypomethylation of CpG island"
##                     "negative regulation of vasoconstriction"
##                     "positive regulation of tight junction disassembly"
##                     "positive regulation of glucose metabolic process"
##                     "establishment of centrosome localization"
##                     "positive regulation of Fc receptor mediated stimulatory signaling pathway"
##                     "dopamine transport"
##                     "embryonic neurocranium morphogenesis"
##                     "regulation of T cell activation"
##                     "response to gamma radiation"
##                     "cellular response to estradiol stimulus"
##                     "heart valve morphogenesis"
##                     "positive regulation of interleukin-13 production"
##                     "sulfation"
##                     "positive regulation of NIK/NF-kappaB signaling"
##                     "negative regulation of intracellular signal transduction"
##                     "negative regulation of glycolytic process"
##                     "embryonic digestive tract morphogenesis"
##                     "sympathetic ganglion development"
##                     "cardiocyte differentiation"
##                     "protein localization to microtubule plus-end"
##                     "positive regulation of lysosomal protein catabolic process"
##                     "histone deubiquitination"
##                     "heparan sulfate proteoglycan biosynthetic process, polysaccharide chain biosynthe
##                     "negative regulation of respiratory burst involved in inflammatory response"
##                     "response to salt"
##                     "Fc receptor mediated inhibitory signaling pathway"
##                     "response to angiotensin"
##                     "histone H3-K9 modification"
##                     "protein-DNA complex assembly"
##                     "histone H3-K9 deacetylation"
##                     "anterograde synaptic vesicle transport"
##                     "transcription initiation from RNA polymerase I promoter"
##                     "positive regulation of G2/M transition of mitotic cell cycle"
##                     "positive regulation of deacetylase activity"
##                     "regulation of locomotion involved in locomotory behavior"
##                     "chondroitin sulfate catabolic process"
##                     "cytokinetic process"
##                     "positive regulation of transcription from RNA polymerase II promoter involved in
##                     "negative regulation of mast cell proliferation"
##                     "positive regulation of cap-dependent translational initiation"
##                     "regulation of lipopolysaccharide-mediated signaling pathway"
##                     "peptidyl-tyrosine dephosphorylation"
##                     "phosphate ion homeostasis"
##                     "hepatocyte proliferation"
```

```
##                    "mucus secretion"
##                    "leptin-mediated signaling pathway"
##                    "auditory receptor cell development"
##                    "triglyceride metabolic process"
##                    "unsaturated fatty acid biosynthetic process"
##                    "connective tissue replacement involved in inflammatory response wound healing"
##                    "positive regulation of cardiac muscle contraction"
##                    "gonad development"
##                    "negative regulation of ossification"
##                    "cellular response to nerve growth factor stimulus"
##                    "negative regulation of transcription by RNA polymerase I"
##                    "regulation of membrane repolarization during atrial cardiac muscle cell action po
##                    "regulation of membrane repolarization during cardiac muscle cell action potential
##                    "negative regulation of cytokine production involved in inflammatory response"
##                    "positive regulation of adaptive immune response"
##                    "response to auditory stimulus"
##                    "modification by virus of host mRNA processing"
##                    "positive regulation of chemokine (C-C motif) ligand 5 production"
##                    "cAMP biosynthetic process"
##                    "cardiac muscle cell action potential involved in contraction"
##                    "regulation of glucocorticoid metabolic process"
##                    "signaling"
##                    "aggressive behavior"
##                    "negative regulation of B cell receptor signaling pathway"
##                    "desmosome assembly"
##                    "pronuclear fusion"
##                    "regulation of Schwann cell differentiation"
##                    "adrenomedullin receptor signaling pathway"
##                    "DNA-templated viral transcription"
##                    "small RNA loading onto RISC"
##                    "cellular response to oxidised low-density lipoprotein particle stimulus"
##                    "positive regulation of viral translation"
##                    "positive regulation of polysome binding"
##                    "T-helper 1 cell lineage commitment"
##                    "histone modification"
##                    "protection from non-homologous end joining at telomere"
##                    "positive regulation of cartilage development"
##                    "endochondral bone morphogenesis"
##                    "regulation of lipid storage"
##                    "bone morphogenesis"
##                    "negative regulation of pathway-restricted SMAD protein phosphorylation"
##                    "vitamin D metabolic process"
##                    "regulation of blood vessel size"
##                    "cerebral cortex development"
##                    "positive regulation of toll-like receptor 4 signaling pathway"
##                    "regulation of cytoplasmic translation"
##                    "paraxial mesoderm morphogenesis"
##                    "positive regulation of cell growth involved in cardiac muscle cell development"
##                    "negative regulation of epithelial cell differentiation"
##                    "negative regulation of sprouting angiogenesis"
##                    "response to dexamethasone"
##                    "acrosome assembly"
##                    "positive regulation of protein kinase C signaling"
##                    "reduction of food intake in response to dietary excess"
```

```
##                     "positive regulation of skeletal muscle tissue regeneration"
##                     "positive regulation of NK T cell differentiation"
##                     "centrosome duplication"
##                     "fat pad development"
##                     "photoreceptor cell outer segment organization"
##                     "negative regulation of macrophage chemotaxis"
##                     "saliva secretion"
##                     "chondroblast differentiation"
##                     "regulation of bile acid biosynthetic process"
##                     "mucosal immune response"
##                     "water transport"
##                     "cortical microtubule organization"
##                     "spindle checkpoint"
##                     "exploration behavior"
##                     "mammary gland branching involved in pregnancy"
##                     "positive regulation of oligodendrocyte progenitor proliferation"
##                     "negative regulation of single stranded viral RNA replication via double stranded 
##                     "positive regulation of pri-miRNA transcription by RNA polymerase II"
##                     "regulation of gene expression by genetic imprinting"
##                     "DNA demethylation"
##                     "regulation of mRNA stability involved in response to oxidative stress"
##                     "snoRNA 3'-end processing"
##                     "angiotensin-activated signaling pathway"
##                     "cartilage condensation"
##                     "collagen-activated tyrosine kinase receptor signaling pathway"
##                     "negative regulation of skeletal muscle cell differentiation"
##                     "central nervous system projection neuron axonogenesis"
##                     "ectopic germ cell programmed cell death"
##                     "regulation of respiratory gaseous exchange by neurological system process"
##                     "positive regulation of cell proliferation involved in heart valve morphogenesis"
##                     "female gonad morphogenesis"
##                     "negative regulation of cardiac myofibril assembly"
##                     "cholesterol import"
##                     "heart trabecula morphogenesis"
##                     "negative regulation of ER-associated ubiquitin-dependent protein catabolic proces
##                     "regulation of ATPase activity"
##                     "positive regulation of apoptotic cell clearance"
##                     "artery development"
##                     "endocardial cushion fusion"
##                     "positive regulation of growth factor dependent skeletal muscle satellite cell pro
##                     "positive regulation of peptidyl-serine phosphorylation"
##                     "regulation of defense response to virus by host"
##                     "telomere maintenance via recombination"
##                     "positive regulation of odontogenesis"
##                     "mRNA transport"
##                     "positive regulation of peptide hormone secretion"
##                     "replication fork protection"
##                     "regulation of endodeoxyribonuclease activity"
##                     "positive regulation of small intestine smooth muscle contraction"
##                     "RNA phosphodiester bond hydrolysis"
##                     "startle response"
##                     "positive regulation of norepinephrine secretion"
##                     "positive regulation of signal transduction by p53 class mediator"
##                     "genetic imprinting"
```

```
##                     "tRNA 5'-leader removal"
##                     "microtubule depolymerization"
##                     "positive regulation of interferon-gamma secretion"
##                     "histone-serine phosphorylation"
##                     "neuron projection retraction"
##                     "cerebral cortex GABAergic interneuron migration"
##                     "receptor internalization"
##                     "positive regulation of acute inflammatory response"
##                     "positive regulation of heterotypic cell-cell adhesion"
##                     "embryonic camera-type eye morphogenesis"
##                     "T cell migration"
##                     "nuclear-transcribed mRNA catabolic process, exonucleolytic"
##                     "peptidyl-lysine monomethylation"
##                     "negative regulation of urine volume"
##                     "positive regulation of insulin-like growth factor receptor signaling pathway"
##                     "ribosomal large subunit assembly"
##                     "neurological system process involved in regulation of systemic arterial blood pres
##                     "Fc receptor mediated stimulatory signaling pathway"
##                     "regulation of vascular smooth muscle contraction"
##                     "gene silencing by RNA"
##                     "negative regulation of oligodendrocyte differentiation"
##                     "negative regulation of cytokine secretion"
##                     "proepicardium development"
##                     "germ cell development"
##                     "positive regulation of podosome assembly"
##                     "positive regulation of endothelial cell chemotaxis by VEGF-activated vascular endo
##                     "regulation of protein metabolic process"
##                     "lens fiber cell differentiation"
##                     "positive regulation of sodium-dependent phosphate transport"
##                     "negative regulation of protein homooligomerization"
##                     "organ induction"
##                     "glutamate secretion"
##                     "detection of abiotic stimulus"
##                     "regulation of nucleocytoplasmic transport"
##                     "mast cell differentiation"
##                     "epithelial tube branching involved in lung morphogenesis"
##                     "response to muramyl dipeptide"
##                     "positive regulation of telomerase RNA reverse transcriptase activity"
##                     "secretory columnal luminar epithelial cell differentiation involved in prostate gl
##                     "regulation of interleukin-1 beta production"
##                     "regulation of multicellular organism growth"
##                     "positive regulation of protein localization to synapse"
##                     "extracellular negative regulation of signal transduction"
##                     "negative regulation of mast cell activation"
##                     "positive regulation of biomineral tissue development"
##                     "keratinocyte proliferation"
##                     "viral penetration into host nucleus"
##                     "fear response"
##                     "granulocyte chemotaxis"
##                     "gamete generation"
##                     "cellular response to hydroxyurea"
##                     "regulation of DNA replication origin binding"
##                     "immune response-regulating cell surface receptor signaling pathway"
##                     "B cell chemotaxis"
```

```
##                    "intraciliary transport"
##                    "positive regulation of ubiquitin protein ligase activity"
##                    "neuron cellular homeostasis"
##                    "regulation of chromatin organization"
##                    "negative regulation of endoplasmic reticulum unfolded protein response"
##                    "cell adhesion mediated by integrin"
##                    "inhibitory postsynaptic potential"
##                    "viral RNA genome replication"
##                    "endothelin receptor signaling pathway"
##                    "embryonic brain development"
##                    "membranous septum morphogenesis"
##                    "left ventricular cardiac muscle tissue morphogenesis"
##                    "cellular protein-containing complex localization"
##                    "protein localization to spindle microtubule"
##                    "RNA localization to chromatin"
##                    "negative regulation of type I interferon production"
##                    "positive regulation of response to cytokine stimulus"
##                    "peptidyl-lysine dimethylation"
##                    "t-circle formation"
##                    "positive regulation of organ growth"
##                    "nervous system process"
##                    "cranial skeletal system development"
##                    "negative regulation of intrinsic apoptotic signaling pathway in response to osmot
##                    "regulation of glycolytic process by negative regulation of transcription from RNA
##                    "regulation of fatty acid transport"
##                    "negative regulation of type B pancreatic cell apoptotic process"
##                    "positive regulation of chemokine production"
##                    "odontogenesis"
##                    "negative regulation of vascular permeability"
##                    "positive regulation of centriole replication"
##                    "histone monoubiquitination"
##                    "negative regulation of histone H3-K27 methylation"
##                    "negative regulation of platelet activation"
##                    "positive regulation of cytokine secretion"
##                    "cellular response to lipoteichoic acid"
##                    "bile acid secretion"
##                    "cellular response to mechanical stimulus"
##                    "response to other organism"
##                    "positive regulation of mitochondrial depolarization"
##                    "regulation of centriole-centriole cohesion"
##                    "microtubule anchoring at centrosome"
##                    "negative regulation of calcium ion-dependent exocytosis"
##                    "response to laminar fluid shear stress"
##                    "vascular endothelial growth factor signaling pathway"
##                    "negative regulation of actin filament severing"
##                    "lung lobe morphogenesis"
##                    "aorta morphogenesis"
##                    NA
##                    "negative regulation of glycogen biosynthetic process"
##                    "negative regulation of lung blood pressure"
##                    "negative regulation of telomere capping"
##                    "nuclear speck organization"
##                    "pointed-end actin filament capping"
##                    "positive regulation of transcription from RNA polymerase II promoter in response t
```

```
##                      "exocytic insertion of neurotransmitter receptor to postsynaptic membrane"
##                      "chylomicron remodeling"
##                      "snRNA processing"
##                      "regulation of histone modification"
##                      "neuron fate specification"
##                      "cellular response to steroid hormone stimulus"
##                      "regulation of interleukin-1 production"
##                      "cellular pigmentation"
##                      "response to amyloid-beta"
##                      "snoRNA splicing"
##                      "B cell proliferation involved in immune response"
##                      "regulation of fatty acid metabolic process"
##                      "negative regulation of phospholipase A2 activity"
##                      "cellular response to hyperoxia"
##                      "lipoprotein catabolic process"
##                      "positive regulation of protein metabolic process"
##                      "synaptic growth at neuromuscular junction"
##                      "negative regulation of dopaminergic neuron differentiation"
##                      "positive regulation of transforming growth factor beta3 production"
##                      "cellular response to thyroid hormone stimulus"
##                      "eye development"
##                      "heteroduplex formation"
##                      "negative regulation of G0 to G1 transition"
##                      "interleukin-12 secretion"
##                      "negative regulation of cell migration"
##                      "regulation of extracellular matrix organization"
##                      "regulation of cysteine-type endopeptidase activity involved in apoptotic process"
##                      "Golgi vesicle transport"
##                      "negative regulation of androgen receptor signaling pathway"
##                      "histone H2A ubiquitination"
##                      "negative regulation of tumor necrosis factor biosynthetic process"
##                      "norepinephrine-epinephrine vasoconstriction involved in regulation of systemic ar
##                      "positive regulation of homotypic cell-cell adhesion"
##                      "negative regulation of interleukin-5 production"
##                      "regulation of dephosphorylation"
##                      "regulation of RNA stability"
##                      "negative regulation of vascular endothelial growth factor receptor signaling path
##                      "transepithelial chloride transport"
##                      "negative regulation of interleukin-6 biosynthetic process"
##                      "clathrin coat disassembly"
##                      "transcription, RNA-templated"
##                      "positive regulation of canonical Wnt signaling pathway"
##                      "actomyosin contractile ring assembly"
##                      "positive regulation of CD4-positive, alpha-beta T cell proliferation"
##                      "lens development in camera-type eye"
##                      "activation of protein kinase C activity"
##                      "positive regulation of sister chromatid cohesion"
##                      "CD4-positive, CD25-positive, alpha-beta regulatory T cell lineage commitment"
##                      "positive regulation of peripheral T cell tolerance induction"
##                      "positive regulation of CD4-positive, CD25-positive, alpha-beta regulatory T cell
##                      "negative regulation of interferon-gamma biosynthetic process"
##                      "mitochondrial depolarization"
##                      "signal transduction by p53 class mediator"
##                      "regulation of cell growth by extracellular stimulus"
```

```
##                      "endodermal cell fate specification"
##                      "transitional one stage B cell differentiation"
##                      "histone H2B ubiquitination"
##                      "epithelial cell proliferation involved in mammary gland duct elongation"
##                      "positive regulation of actin filament binding"
##                      "negative regulation of acute inflammatory response to antigenic stimulus"
##                      "90S preribosome assembly"
##                      "regulation of cellular response to stress"
##                      "anterograde axonal protein transport"
##                      "bundle of His cell-Purkinje myocyte adhesion involved in cell communication"
##                      "regulation of cytokine biosynthetic process"
##                      "protein localization to centrosome"
##                      "anterior/posterior axis specification, embryo"
##                      "negative regulation of toll-like receptor 2 signaling pathway"
##                      "response to light stimulus"
##                      "regulation of embryonic development"
##                      "protein O-linked glycosylation"
##                      "maintenance of translational fidelity"
##                      "protein localization to nuclear inner membrane"
##                      "negative regulation of myeloid cell differentiation"
##                      "regulation of JAK-STAT cascade"
##                      "osteoclast differentiation"
##                      "ventricular cardiac muscle cell development"
##                      "positive regulation of alpha-beta T cell proliferation"
##                      "interleukin-8-mediated signaling pathway"
##                      "response to cholecystokinin"
##                      "SH2 domain-mediated complex assembly"
##                      "cellular response to endothelin"
##                      "nuclear transport"
##                      "hematopoietic stem cell proliferation"
##                      "membrane invagination"
##                      "myoblast migration involved in skeletal muscle regeneration"
##                      "positive regulation of transcription from RNA polymerase II promoter in response
##                      "cholecystokinin signaling pathway"
##                      "positive regulation of multicellular organism growth"
##                      "positive regulation of type I interferon-mediated signaling pathway"
##                      "thymocyte migration"
##                      "cellular response to 1-oleoyl-sn-glycerol 3-phosphate"
##                      "negative regulation of intracellular estrogen receptor signaling pathway"
##                      "cell communication"
##                      "negative regulation of peptidyl-threonine phosphorylation"
##                      "localization within membrane"
##                      "positive regulation of natural killer cell chemotaxis"
##                      "mesenchymal cell differentiation"
##                      "myeloid dendritic cell chemotaxis"
##                      "membrane organization"
##                      "positive regulation of growth hormone receptor signaling pathway"
##                      "negative regulation of amyloid-beta clearance"
##                      "fertilization"
##                      "calcium ion transport into cytosol"
##                      "negative regulation of hormone secretion"
##                      "positive regulation of phospholipase C-activating G protein-coupled receptor signa
##                      "positive regulation of cardiac vascular smooth muscle cell differentiation"
##                      "signal transduction involved in mitotic G1 DNA damage checkpoint"
```

```
##                     "Golgi ribbon formation"
##                     "negative regulation of response to gamma radiation"
##                     "ribosome assembly"
##                     "positive regulation of fever generation"
##                     "positive regulation of collateral sprouting"
##                     "cellular protein metabolic process"
##                     "ribosomal large subunit export from nucleus"
##                     "negative regulation of cysteine-type endopeptidase activity"
##                     "postsynaptic membrane assembly"
##                     "cellular response to oxygen levels"
##                     "insulin-like growth factor receptor signaling pathway"
##                     "angiogenesis involved in coronary vascular morphogenesis"
##                     "positive regulation of histone methylation"
##                     "positive regulation of wound healing"
##                     "DNA replication, synthesis of RNA primer"
##                     "negative regulation of platelet aggregation"
##                     "JUN phosphorylation"
##                     "tRNA splicing, via endonucleolytic cleavage and ligation"
##                     "regulation of body fluid levels"
##                     "C-5 methylation of cytosine"
##                     "positive regulation of arachidonic acid secretion"
##                     "negative regulation of interleukin-23 production"
##                     "axon development"
##                     "neural crest formation"
##                     "regulation of synapse structure or activity"
##                     "regulation of branching involved in prostate gland morphogenesis"
##                     "trophoblast giant cell differentiation"
##                     "positive regulation of smooth muscle cell chemotaxis"
##                     "viral budding"
##                     "nucleotide-excision repair, DNA incision, 5'-to lesion"
##                     "positive regulation of SUMO transferase activity"
##                     "positive regulation of interleukin-5 production"
##                     "negative regulation of renal sodium excretion"
##                     "positive regulation of glucokinase activity"
##                     "negative regulation of chronic inflammatory response"
##                     "regulation of heart rate by cardiac conduction"
##                     "negative regulation of t-circle formation"
##                     "regulation of bone resorption"
##                     "synaptic vesicle fusion to presynaptic active zone membrane"
##                     "response to denervation involved in regulation of muscle adaptation"
##                     "dermatan sulfate biosynthetic process"
##                     "positive regulation of cellular pH reduction"
##                     "axonal fasciculation"
##                     "regulation of keratinocyte proliferation"
##                     "negative regulation of myotube differentiation"
##                     "positive regulation of ion transport"
##                     "positive regulation of T-helper 1 cell differentiation"
##                     "neuron projection regeneration"
##                     "establishment of epithelial cell apical/basal polarity"
##                     "regulation of B cell differentiation"
##                     "protein poly-ADP-ribosylation"
##                     "immunoglobulin production"
##                     "anaphase-promoting complex-dependent catabolic process"
##                     "microtubule nucleation by interphase microtubule organizing center"
```

```
##              "regulation of translation at presynapse, modulating synaptic transmission"
##              "regulation of melanocyte differentiation"
##              "branching involved in labyrinthine layer morphogenesis"
##              "collagen metabolic process"
##              "homeostasis of number of cells within a tissue"
##              "mitotic G2 DNA damage checkpoint"
##              "nephrogenic mesenchyme morphogenesis"
##              "pericardium development"
##              "synaptic vesicle uncoating"
##              "nuclear-transcribed mRNA poly(A) tail shortening"
##              "telencephalon development"
##              "cellular response to temperature stimulus"
##              "dendrite extension"
##              "regulation of cell size"
##              "macrophage activation"
##              "detection of light stimulus involved in visual perception"
##              "insulin receptor signaling pathway via phosphatidylinositol 3-kinase"
##              "regulation of DNA damage checkpoint"
##              "nucleotide-excision repair, preincision complex assembly"
##              "synaptic vesicle budding from presynaptic endocytic zone membrane"
##              "negative regulation of interleukin-4 production"
##              "single stranded viral RNA replication via double stranded DNA intermediate"
##              "regulation of histone H4-K16 acetylation"
##              "positive regulation of cardiac muscle cell apoptotic process"
##              "regulation of glutamate receptor signaling pathway"
##              "regulation of calcium ion import across plasma membrane"
##              "branching morphogenesis of a nerve"
##              "positive regulation of protein processing in phagocytic vesicle"
##              "centriole assembly"
##              "receptor-mediated endocytosis"
##              "negative regulation of synapse assembly"
##              "atrioventricular valve formation"
##              "immune system development"
##              "Cdc42 protein signal transduction"
##              "lymphocyte migration"
##              "positive regulation of interleukin-1 beta secretion"
##              "positive regulation of cellular biosynthetic process"
##              "developmental process"
##              "positive regulation of DNA-templated transcription, elongation"
##              "response to nitric oxide"
##              "nucleotide-excision repair, DNA incision"
##              "positive regulation of protein polyubiquitination"
##              "negative regulation of cell adhesion"
##              "regulation of histone deacetylation"
##              "positive regulation of peptidyl-serine phosphorylation of STAT protein"
##              "chromosome segregation"
##              "platelet dense granule organization"
##              "myelin maintenance"
##              "reciprocal meiotic recombination"
##              "microvillus organization"
##              "negative regulation of cortisol secretion"
##              "intestinal epithelial cell migration"
##              "plus-end-directed vesicle transport along microtubule"
##              "positive regulation of core promoter binding"
```

```
##                    "mineralocorticoid receptor signaling pathway"
##                    "regulation of brown fat cell differentiation"
##                    "negative regulation of T-helper 17 cell differentiation"
##                    "negative regulation of endothelial cell proliferation"
##                    "replicative senescence"
##                    "establishment of chromosome localization"
##                    "positive regulation of extracellular exosome assembly"
##                    "positive regulation of intrinsic apoptotic signaling pathway"
##                    "nucleus organization"
##                    "establishment of meiotic spindle localization"
##                    "regulation of T cell anergy"
##                    "response to fibroblast growth factor"
##                    "gastric emptying"
##                    "response to yeast"
##                    "adaptive thermogenesis"
##                    "CD8-positive, gamma-delta intraepithelial T cell differentiation"
##                    "regulation of hair follicle development"
##                    "smoothened signaling pathway involved in dorsal/ventral neural tube patterning"
##                    "negative regulation of cholesterol efflux"
##                    "regulation of protein secretion"
##                    "negative regulation of bone resorption"
##                    "cellular response to L-glutamate"
##                    "maintenance of cell polarity"
##                    "neuron maturation"
##                    "positive regulation of integrin-mediated signaling pathway"
##                    "negative regulation of platelet-derived growth factor receptor-beta signaling patl
##                    "positive regulation of endodeoxyribonuclease activity"
##                    "negative regulation of appetite"
##                    "vasodilation"
##                    "regulation of isotype switching to IgG isotypes"
##                    "telomere capping"
##                    "positive regulation of production of miRNAs involved in gene silencing by miRNA"
##                    "positive regulation of amyloid-beta formation"
##                    "positive regulation of mitochondrial ATP synthesis coupled electron transport"
##                    "negative regulation of neuron projection development"
##                    "positive regulation of interferon-beta secretion"
##                    "positive regulation of neural precursor cell proliferation"
##                    "RNA polymerase I preinitiation complex assembly"
##                    "neuroepithelial cell differentiation"
##                    "commissural neuron axon guidance"
##                    "negative regulation of production of miRNAs involved in gene silencing by miRNA"
##                    "retina vasculature morphogenesis in camera-type eye"
##                    "negative regulation of histone H3-K9 dimethylation"
##                    "positive regulation of T-helper 2 cell cytokine production"
##                    "non-canonical Wnt signaling pathway via JNK cascade"
##                    "granulocyte differentiation"
##                    "positive regulation of 1-phosphatidylinositol-3-kinase activity"
##                    "positive regulation of TOR signaling"
##                    "cellular response to interleukin-3"
##                    "negative regulation of calcium ion transport"
##                    "embryonic heart tube morphogenesis"
##                    "vasculature development"
##                    "endothelial cell differentiation"
##                    "regulation of smooth muscle cell differentiation"
```

```
##                      "locomotor rhythm"
##                      "positive regulation of cyclin-dependent protein serine/threonine kinase activity"
##                      "negative regulation of interleukin-8 secretion"
##                      "positive regulation of translation in response to endoplasmic reticulum stress"
##                      "female meiosis chromosome segregation"
##                      "positive regulation of epidermal cell differentiation"
##                      "positive regulation of dendrite extension"
##                      "negative regulation of wound healing"
##                      "RNA 3'-end processing"
##                      "sperm ejaculation"
##                      "negative regulation of voltage-gated calcium channel activity"
##                      "negative regulation of phospholipase C activity"
##                      "endothelial cell morphogenesis"
##                      "positive regulation of actin nucleation"
##                      "peptide hormone secretion"
##                      "histone H2B acetylation"
##                      "peptidyl-lysine propionylation"
##                      "peptidyl-lysine crotonylation"
##                      "peptidyl-lysine butyrylation"
##                      "positive regulation of follicle-stimulating hormone secretion"
##                      "positive regulation of large conductance calcium-activated potassium channel acti
##                      "negative regulation of microtubule depolymerization"
##                      "positive regulation of B cell receptor signaling pathway"
##                      "negative regulation of TOR signaling"
##                      "regulation of histone acetylation"
##                      "embryonic organ development"
##                      "regulation of protein import into nucleus"
##                      "motile cilium assembly"
##                      "bud elongation involved in lung branching"
##                      "positive regulation of toll-like receptor 3 signaling pathway"
##                      "positive regulation of brown fat cell differentiation"
##                      "epithelial cell development"
##                      "interleukin-1 beta secretion"
##                      "maintenance of centrosome location"
##                      "positive regulation of neuron migration"
##                      "heparan sulfate proteoglycan biosynthetic process"
##                      "B-1 B cell homeostasis"
##                      "negative regulation of astrocyte differentiation"
##                      "endocardial cell differentiation"
##                      "positive regulation of macrophage derived foam cell differentiation"
##                      "negative regulation of stem cell differentiation"
##                      "regulation of respiratory gaseous exchange"
##                      "negative regulation of T cell receptor signaling pathway"
##                      "positive regulation of feeding behavior"
##                      "positive regulation of myoblast fusion"
##                      "entrainment of circadian clock"
##                      "regulation of centrosome cycle"
##                      "regulation of RNA metabolic process"
##                      "negative regulation of phosphatase activity"
##                      "gene silencing"
##                      "negative regulation of calcium ion import"
##                      "multicellular organismal reproductive process"
##                      "regulation of corticosterone secretion"
##                      "negative regulation of cytokine biosynthetic process"
```

```
##                          "gland development"
##                          "establishment or maintenance of actin cytoskeleton polarity"
##                          "oligodendrocyte apoptotic process"
##                          "positive regulation of phosphatidylinositol biosynthetic process"
##                          "sterol metabolic process"
##                          "nodal signaling pathway"
##                          "generation of catalytic spliceosome for first transesterification step"
##                          "positive regulation of platelet-derived growth factor receptor signaling pathway"
##                          "positive regulation of immature T cell proliferation in thymus"
##                          "negative regulation of gene expression, epigenetic"
##                          "homeostatic process"
##                          "positive regulation of intrinsic apoptotic signaling pathway in response to DNA da
##                          "sebaceous gland development"
##                          "primary ovarian follicle growth"
##                          "negative regulation of B cell apoptotic process"
##                          "regulation of modification of synaptic structure"
##                          "regulation of caveolin-mediated endocytosis"
##                          "positive regulation of RNA binding"
##                          "triglyceride mobilization"
##                          "negative regulation of luteinizing hormone secretion"
##                          "T cell lineage commitment"
##                          "DNA methylation involved in embryo development"
##                          "chloride transmembrane transport"
##                          "histone H4-K5 acetylation"
##                          "histone H4-K8 acetylation"
##                          "negative regulation of keratinocyte differentiation"
##                          "intermediate filament cytoskeleton organization"
##                          "labyrinthine layer development"
##                          "negative regulation of transcription involved in G1/S transition of mitotic cell c
##                          "regulation of protein kinase B signaling"
##                          "negative regulation of endoplasmic reticulum stress-induced eIF2 alpha phosphoryla
##                          "positive regulation of ovarian follicle development"
##                          "negative regulation of protein kinase activity by regulation of protein phosphoryl
##                          "positive regulation of protein autophosphorylation"
##                          "positive regulation of dopamine uptake involved in synaptic transmission"
##                          "angiogenesis involved in wound healing"
##                          "neuron projection extension"
##                          "cellular response to glucocorticoid stimulus"
##                          "response to molecule of bacterial origin"
##                          "conditioned taste aversion"
##                          "regulation of ruffle assembly"
##                          "DNA unwinding involved in DNA replication"
##                          "positive regulation of branching involved in ureteric bud morphogenesis"
##                          "positive regulation of SMAD protein signal transduction"
##                          "positive regulation of blood vessel endothelial cell proliferation involved in spr
##                          "adrenal gland development"
##                          "negative regulation of bone mineralization"
##                          "establishment or maintenance of microtubule cytoskeleton polarity"
##                          "T cell mediated immunity"
##                          "immunoglobulin mediated immune response"
##                          "cellular protein-containing complex assembly"
##                          "organ growth"
##                          "negative regulation of blood coagulation"
##                          "negative regulation of DNA demethylation"
```

```
##                     "positive regulation of cholesterol efflux"
##                     "cytoplasmic translational termination"
##                     "DNA damage checkpoint"
##                     "negative regulation of cell-cell adhesion"
##                     "oligodendrocyte differentiation"
##                     "negative regulation of neuroblast proliferation"
##                     "regulation of mast cell degranulation"
##                     "G1/S transition of mitotic cell cycle"
##                     "negative regulation of epithelial cell proliferation involved in prostate gland de
##                     "cellular response to retinoic acid"
##                     "DNA replication checkpoint"
##                     "sulfur compound metabolic process"
##                     "positive regulation of release of sequestered calcium ion into cytosol"
##                     "neuron migration"
##                     "intraciliary retrograde transport"
##                     "positive regulation of astrocyte differentiation"
##                     "carbohydrate biosynthetic process"
##                     "low-density lipoprotein particle remodeling"
##                     "multivesicular body assembly"
##                     "regulation of tubulin deacetylation"
##                     "negative regulation of osteoblast proliferation"
##                     "negative regulation of transposon integration"
##                     "neuron cell-cell adhesion"
##                     "neural precursor cell proliferation"
##                     "regulation of epithelial cell proliferation"
##                     "negative regulation of female receptivity"
##                     "peristalsis"
##                     "dendritic cell migration"
##                     "negative regulation of keratinocyte proliferation"
##                     "positive regulation of B cell proliferation"
##                     "3'-phosphoadenosine 5'-phosphosulfate metabolic process"
##                     "cellular senescence"
##                     "erythrocyte homeostasis"
##                     "positive regulation of endothelial cell chemotaxis"
##                     "regulation of epidermal growth factor-activated receptor activity"
##                     "ventricular cardiac muscle tissue morphogenesis"
##                     "negative regulation of protein catabolic process"
##                     "convergent extension involved in axis elongation"
##                     "regulation of calcium ion import"
##                     "negative regulation of toll-like receptor 4 signaling pathway"
##                     "middle ear morphogenesis"
##                     "positive regulation of tumor necrosis factor biosynthetic process"
##                     "voluntary musculoskeletal movement"
##                     "signal peptide processing"
##                     "skeletal system morphogenesis"
##                     "rescue of stalled ribosome"
##                     "metanephros development"
##                     "negative regulation of immunoglobulin production"
##                     "DNA integration"
##                     "positive regulation of extracellular matrix assembly"
##                     "oogenesis"
##                     "leukotriene signaling pathway"
##                     "ribosomal small subunit export from nucleus"
##                     "response to hepatocyte growth factor"
```

```
##                    "negative regulation of myoblast differentiation"
##                    "neural crest cell differentiation"
##                    "response to singlet oxygen"
##                    "positive regulation of transcription from RNA polymerase II promoter involved in u
##                    "grooming behavior"
##                    "negative regulation of telomere maintenance via telomerase"
##                    "cellular response to glycine"
##                    "adenylate cyclase-inhibiting opioid receptor signaling pathway"
##                    "positive regulation of T cell proliferation"
##                    "regulation of feeding behavior"
##                    "single fertilization"
##                    "submandibular salivary gland formation"
##                    "negative regulation of wound healing, spreading of epidermal cells"
##                    "regulation of blood vessel diameter by renin-angiotensin"
##                    "negative regulation of viral transcription"
##                    "negative regulation of fibroblast growth factor receptor signaling pathway"
##                    "ribosomal small subunit assembly"
##                    "cellular response to forskolin"
##                    "negative regulation of adaptive immune response"
##                    "regulation of cell division"
##                    "regulation of transcription involved in cell fate commitment"
##                    "calcium ion-regulated exocytosis of neurotransmitter"
##                    "phototransduction, visible light"
##                    "proteoglycan biosynthetic process"
##                    "mating behavior"
##                    "meiotic recombination checkpoint"
##                    "intestinal epithelial cell differentiation"
##                    "positive regulation of receptor catabolic process"
##                    "negative regulation of TORC1 signaling"
##                    "regulation of AMPA receptor activity"
##                    "positive regulation of potassium ion transmembrane transport"
##                    "negative regulation of actin filament polymerization"
##                    "positive regulation of prostaglandin secretion"
##                    "regulation of respiratory burst"
##                    "regulation of lipid metabolic process"
##                    "protein polymerization"
##                    "positive regulation of cyclic-nucleotide phosphodiesterase activity"
##                    "spliceosomal tri-snRNP complex assembly"
##                    "positive regulation of cell-cell adhesion"
##                    "negative regulation of mitotic cell cycle"
##                    "multicellular organism growth"
##                    "miRNA transport"
##                    "positive regulation of circadian sleep/wake cycle, wakefulness"
##                    "negative regulation of hydrogen peroxide biosynthetic process"
##                    "regulation of fibroblast migration"
##                    "vitamin metabolic process"
##                    "parturition"
##                    "neuron fate determination"
##                    "positive regulation of prostaglandin-endoperoxide synthase activity"
##                    "positive regulation of macroautophagy"
##                    "endosome transport via multivesicular body sorting pathway"
##                    "negative regulation of feeding behavior"
##                    "positive regulation of myotube differentiation"
##                    "regulation of platelet aggregation"
```

```
##                      "penile erection"
##                      "negative regulation of dopamine secretion"
##                      "regulation of axonogenesis"
##                      "lipid tube assembly"
##                      "regulation of membrane permeability"
##                      "evasion or tolerance of host defenses by virus"
##                      "positive regulation of histone H4-K20 methylation"
##                      "protein localization to nuclear envelope"
##                      "microtubule polymerization"
##                      "eye photoreceptor cell development"
##                      "centriole elongation"
##                      "trans-synaptic signaling by endocannabinoid, modulating synaptic transmission"
##                      "positive regulation of amyloid-beta clearance"
##                      "negative regulation of eating behavior"
##                      "regulation of somitogenesis"
##                      "cardiac muscle cell differentiation"
##                      "embryo development ending in birth or egg hatching"
##                      "pyroptosis"
##                      "positive regulation of execution phase of apoptosis"
##                      "synaptic transmission, dopaminergic"
##                      "positive regulation of histone H4-K16 acetylation"
##                      "negative regulation of GTPase activity"
##                      "negative regulation of systemic arterial blood pressure"
##                      "negative regulation of B cell proliferation"
##                      "regulation of Rac protein signal transduction"
##                      "regulation of ventricular cardiac muscle cell action potential"
##                      "regulation of Cdc42 protein signal transduction"
##                      "positive regulation of gluconeogenesis by positive regulation of transcription fr
##                      "extracellular matrix disassembly"
##                      "cellular zinc ion homeostasis"
##                      "positive regulation of luteinizing hormone secretion"
##                      "activation of cysteine-type endopeptidase activity involved in apoptotic signalin
##                      "skeletal muscle myosin thick filament assembly"
##                      "metaphase plate congression"
##                      "regulation of blood volume by renin-angiotensin"
##                      "positive regulation of BMP signaling pathway"
##                      "hair follicle morphogenesis"
##                      "regulation of T cell differentiation"
##                      "cellular response to vitamin D"
##                      "regulation of glucose transmembrane transport"
##                      "negative regulation of glial cell apoptotic process"
##                      "positive regulation of spindle assembly"
##                      "negative regulation of DNA replication"
##                      "positive regulation of T-helper 2 cell differentiation"
##                      "male gonad development"
##                      "cellular response to progesterone stimulus"
##                      "cilium assembly"
##                      "positive regulation of heat generation"
##                      "xenophagy"
##                      "positive regulation of smooth muscle cell apoptotic process"
##                      "body fluid secretion"
##                      "phospholipid catabolic process"
##                      "positive regulation of cell-cell adhesion mediated by integrin"
##                      "clathrin-dependent endocytosis"
```

```
##                   "Golgi disassembly"
##                   "positive regulation blood vessel branching"
##                   "activation of Janus kinase activity"
##                   "activation of adenylate cyclase activity"
##                   "negative regulation of pri-miRNA transcription by RNA polymerase II"
##                   "optic nerve development"
##                   "regulation of telomere maintenance via telomerase"
##                   "RNA polymerase III preinitiation complex assembly"
##                   "calcium ion transport"
##                   "adult feeding behavior"
##                   "neuron remodeling"
##                   "response to leptin"
##                   "mitotic cytokinesis"
##                   "regulation of actin cytoskeleton reorganization"
##                   "negative regulation of interleukin-2 secretion"
##                   "mitotic G2/M transition checkpoint"
##                   "response to transforming growth factor beta"
##                   "positive regulation of nitric-oxide synthase activity"
##                   "negative regulation of transmission of nerve impulse"
##                   "negative regulation of signal transduction"
##                   "negative regulation of Notch signaling pathway"
##                   "acute inflammatory response to antigenic stimulus"
##                   "defense response to protozoan"
##                   "oxidative stress-induced premature senescence"
##                   "mRNA polyadenylation"
##                   "positive regulation of extracellular matrix disassembly"
##                   "regulation of protein binding"
##                   "positive regulation of defense response to virus by host"
##                   "negative regulation of serotonin secretion"
##                   "regulation of dendrite morphogenesis"
##                   "positive regulation of mRNA 3'-end processing"
##                   "adult behavior"
##                   "positive regulation of stem cell proliferation"
##                   "protein localization to cell surface"
##                   "positive regulation of interleukin-2 secretion"
##                   "keratan sulfate biosynthetic process"
##                   "positive regulation of Wnt signaling pathway, planar cell polarity pathway"
##                   "regulation of centromere complex assembly"
##                   "G protein-coupled receptor signaling pathway coupled to cGMP nucleotide second mes
##                   "negative regulation of innate immune response"
##                   "cleavage furrow formation"
##                   "gastrulation with mouth forming second"
##                   "stem cell population maintenance"
##                   "complement activation, alternative pathway"
##                   "negative regulation of circadian rhythm"
##                   "presynapse assembly"
##                   "segment specification"
##                   "regulation of response to food"
##                   "positive regulation of smoothened signaling pathway"
##                   "regulation of neuron death"
##                   "elastic fiber assembly"
##                   "enteric nervous system development"
##                   "negative regulation of T cell apoptotic process"
##                   "negative regulation of CREB transcription factor activity"
```

```
##                     "cholesterol homeostasis"
##                     "positive regulation of corticotropin secretion"
##                     "vesicle fusion with Golgi apparatus"
##                     "targeting of mRNA for destruction involved in RNA interference"
##                     "protein trimerization"
##                     "branching involved in salivary gland morphogenesis"
##                     "regulation of cell projection assembly"
##                     "negative regulation of myofibroblast differentiation"
##                     "positive regulation of dendritic cell antigen processing and presentation"
##                     "positive regulation of gap junction assembly"
##                     "negative regulation of dopamine receptor signaling pathway"
##                     "smooth muscle cell differentiation"
##                     "cellular response to nitric oxide"
##                     "regulation of G1/S transition of mitotic cell cycle"
##                     "keratinocyte development"
##                     "regulation of translational initiation"
##                     "JAK-STAT cascade"
##                     "positive regulation of transforming growth factor beta receptor signaling pathway"
##                     "modification of synaptic structure"
##                     "regulation of centriole replication"
##                     "response to vitamin D"
##                     "ubiquitin-dependent protein catabolic process"
##                     "negative regulation of cell size"
##                     "termination of RNA polymerase I transcription"
##                     "cilium organization"
##                     "glycosaminoglycan catabolic process"
##                     "protein import into nucleus"
##                     "definitive hemopoiesis"
##                     "bone development"
##                     "canonical Wnt signaling pathway involved in regulation of cell proliferation"
##                     "adenylate cyclase-inhibiting serotonin receptor signaling pathway"
##                     "positive regulation of regulatory T cell differentiation"
##                     "negative regulation of NIK/NF-kappaB signaling"
##                     "de novo centriole assembly involved in multi-ciliated epithelial cell differentia
##                     "positive regulation of cell aging"
##                     "negative regulation of anoikis"
##                     "dendritic spine maintenance"
##                     "response to amino acid"
##                     "germ cell migration"
##                     "positive regulation of interleukin-2 production"
##                     "anoikis"
##                     "mammary gland epithelial cell differentiation"
##                     "maturation of SSU-rRNA"
##                     "regulation of circadian sleep/wake cycle, sleep"
##                     "negative regulation of PERK-mediated unfolded protein response"
##                     "positive regulation of intracellular transport"
##                     "spleen development"
##                     "blood vessel maturation"
##                     "peptide cross-linking"
##                     "double-strand break repair via nonhomologous end joining"
##                     "peptidyl-serine phosphorylation"
##                     "regulation of cardiac muscle contraction"
##                     "osteoblast differentiation"
##                     "suckling behavior"
```

```
##                     "positive regulation of neuron death"
##                     "regulation of epithelial cell migration"
##                     "operant conditioning"
##                     "regulation of glycogen metabolic process"
##                     "UV-damage excision repair"
##                     "regulation of modification of postsynaptic structure"
##                     "embryonic foregut morphogenesis"
##                     "DNA damage response, signal transduction by p53 class mediator"
##                     "negative regulation of histone H3-K9 trimethylation"
##                     "mitotic G1 DNA damage checkpoint"
##                     "homologous chromosome segregation"
##                     "tissue homeostasis"
##                     "negative regulation of cell-matrix adhesion"
##                     "positive regulation of extracellular matrix organization"
##                     "tachykinin receptor signaling pathway"
##                     "determination of left/right symmetry"
##                     "mitotic nuclear envelope reassembly"
##                     "regulation of appetite"
##                     "mRNA alternative polyadenylation"
##                     "messenger ribonucleoprotein complex assembly"
##                     "negative regulation of cell-substrate adhesion"
##                     "hyaluronan catabolic process"
##                     "Leydig cell differentiation"
##                     "DNA strand renaturation"
##                     "positive regulation of thymocyte apoptotic process"
##                     "transcription by RNA polymerase III"
##                     "paraxial mesoderm development"
##                     "embryonic skeletal system development"
##                     "negative regulation of mesenchymal cell proliferation"
##                     "substrate-dependent cell migration, cell extension"
##                     "myofibril assembly"
##                     "sister chromatid biorientation"
##                     "non-motile cilium assembly"
##                     "dendritic cell differentiation"
##                     "negative regulation of long-term synaptic potentiation"
##                     "negative regulation of macrophage apoptotic process"
##                     "beta-catenin-TCF complex assembly"
##                     "exit from mitosis"
##                     "mature conventional dendritic cell differentiation"
##                     "regulation of cyclin-dependent protein serine/threonine kinase activity"
##                     "hormone-mediated apoptotic signaling pathway"
##                     "activation of protein kinase B activity"
##                     "positive regulation of growth hormone secretion"
##                     "positive regulation of cholesterol storage"
##                     "positive regulation of integrin activation"
##                     "cartilage development"
##                     "regulation of lipid kinase activity"
##                     "neutrophil clearance"
##                     "protein localization to chromosome, centromeric region"
##                     "positive regulation of endothelial cell migration"
##                     "enucleate erythrocyte differentiation"
##                     "regulation of Wnt signaling pathway"
##                     "regulation of dopamine metabolic process"
##                     "cellular response to exogenous dsRNA"
```

```
##                     "regulation of entry of bacterium into host cell"
##                     "hair cycle"
##                     "synaptic vesicle docking"
##                     "negative regulation of interleukin-10 production"
##                     "positive regulation of interleukin-17 production"
##                     "response to lipid"
##                     "regulation of leukocyte migration"
##                     "cellular response to extracellular stimulus"
##                     "negative regulation of nitric-oxide synthase activity"
##                     "regulation of SMAD protein signal transduction"
##                     "regulation of dopamine uptake involved in synaptic transmission"
##                     "ER to Golgi vesicle-mediated transport"
##                     "cellular response to prostaglandin E stimulus"
##                     "negative regulation of cold-induced thermogenesis"
##                     "positive regulation of collagen fibril organization"
##                     "positive regulation of circadian sleep/wake cycle, non-REM sleep"
##                     "cell migration involved in sprouting angiogenesis"
##                     "positive regulation of JAK-STAT cascade"
##                     "cellular response to xenobiotic stimulus"
##                     "response to corticosterone"
##                     "microtubule nucleation"
##                     "cholesterol efflux"
##                     "positive regulation of cortisol secretion"
##                     "angiotensin-activated signaling pathway involved in heart process"
##                     "intestinal absorption"
##                     "spinal cord motor neuron differentiation"
##                     "histone H4-K16 acetylation"
##                     "abortive mitotic cell cycle"
##                     "negative regulation of interleukin-17 production"
##                     "histone lysine methylation"
##                     "chemosensory behavior"
##                     "tissue regeneration"
##                     "blood vessel endothelial cell migration"
##                     "regulation of microtubule polymerization"
##                     "cerebellum morphogenesis"
##                     "IRES-dependent viral translational initiation"
##                     "maternal aggressive behavior"
##                     "negative regulation of isotype switching to IgE isotypes"
##                     "positive regulation of T cell migration"
##                     "positive regulation by host of viral transcription"
##                     "protein autophosphorylation"
##                     "regulation of striated muscle tissue development"
##                     "regulation of myelination"
##                     "response to toxic substance"
##                     "parathyroid gland development"
##                     "mammary gland alveolus development"
##                     "regulation of cytokine production"
##                     "mast cell chemotaxis"
##                     "positive regulation of inositol trisphosphate biosynthetic process"
##                     "regulation of centrosome duplication"
##                     "establishment of Sertoli cell barrier"
##                     "cellular response to DNA damage stimulus"
##                     "negative regulation of neuron differentiation"
##                     "DNA topological change"
```

```
##                       "nuclear pore organization"
##                       "postsynaptic neurotransmitter receptor internalization"
##                       "renin-angiotensin regulation of aldosterone production"
##                       "activation of JUN kinase activity"
##                       "phosphatidylinositol 3-kinase signaling"
##                       "regulation of synaptic vesicle exocytosis"
##                       "platelet-derived growth factor receptor-beta signaling pathway"
##                       "positive regulation of methylation-dependent chromatin silencing"
##                       "cellular response to nutrient levels"
##                       "face morphogenesis"
##                       "positive regulation of eating behavior"
##                       "positive regulation of small GTPase mediated signal transduction"
##                       "regulation of lipid transport by negative regulation of transcription from RNA pol
##                       "regulation of insulin receptor signaling pathway"
##                       "positive regulation of gene silencing by miRNA"
##                       "hemidesmosome assembly"
##                       "spindle organization"
##                       "neuron fate commitment"
##                       "regulation of transmission of nerve impulse"
##                       "negative regulation of smooth muscle cell apoptotic process"
##                       "positive regulation of insulin secretion involved in cellular response to glucose
##                       "histone H3-K4 methylation"
##                       "positive regulation of action potential"
##                       "positive regulation of leukocyte migration"
##                       "adenohypophysis development"
##                       "stress fiber assembly"
##                       "interleukin-7-mediated signaling pathway"
##                       "tissue development"
##                       "prolactin secretion"
##                       "lipoprotein transport"
##                       "circadian behavior"
##                       "negative regulation of epinephrine secretion"
##                       "cellular response to fatty acid"
##                       "chondroitin sulfate biosynthetic process"
##                       "cardiac muscle fiber development"
##                       "regulation of binding"
##                       "regulation of extrinsic apoptotic signaling pathway via death domain receptors"
##                       "regulation of clathrin-dependent endocytosis"
##                       "maintenance of mitotic sister chromatid cohesion"
##                       "common-partner SMAD protein phosphorylation"
##                       "cellular response to interleukin-1"
##                       "regulation of establishment of cell polarity"
##                       "nitric oxide mediated signal transduction"
##                       "positive regulation of interferon-alpha secretion"
##                       "urinary bladder development"
##                       "peptidyl-lysine acetylation"
##                       "negative regulation of transcription regulatory region DNA binding"
##                       "histone H3 deacetylation"
##                       "aortic valve morphogenesis"
##                       "regulation of cohesin loading"
##                       "signal transduction involved in G2 DNA damage checkpoint"
##                       "negative regulation of leukocyte tethering or rolling"
##                       "dosage compensation by inactivation of X chromosome"
##                       "mRNA 5'-splice site recognition"
```

```
##                      "negative regulation of T-helper 2 cell differentiation"
##                      "cellular response to BMP stimulus"
##                      "negative regulation of protein localization to nucleus"
##                      "regulation of androgen receptor signaling pathway"
##                      "positive regulation of clathrin-dependent endocytosis"
##                      "positive regulation of interleukin-8 secretion"
##                      "negative regulation of extrinsic apoptotic signaling pathway"
##                      "epithelial cell morphogenesis"
##                      "regulation of transforming growth factor beta2 production"
##                      "follicle-stimulating hormone signaling pathway"
##                      "protein localization to organelle"
##                      "negative regulation of gastric acid secretion"
##                      "DNA synthesis involved in DNA repair"
##                      "intestine smooth muscle contraction"
##                      "detection of calcium ion"
##                      "smooth muscle contraction"
##                      "negative regulation of protein neddylation"
##                      "centriole-centriole cohesion"
##                      "dendritic transport of messenger ribonucleoprotein complex"
##                      "cardiac left ventricle morphogenesis"
##                      "negative regulation of peptidyl-lysine acetylation"
##                      "plasma membrane tubulation"
##                      "positive regulation of gene expression, epigenetic"
##                      "chordate embryonic development"
##                      "regulation of retinoic acid receptor signaling pathway"
##                      "ventricular cardiac muscle cell differentiation"
##                      "cardiac muscle contraction"
##                      "positive regulation of cholesterol esterification"
##                      "response to food"
##                      "regulation of microtubule-based process"
##                      "cannabinoid signaling pathway"
##                      "apoptotic cell clearance"
##                      "mesoderm development"
##                      "regulation of blood coagulation"
##                      "cellular protein modification process"
##                      "positive regulation of receptor biosynthetic process"
##                      "positive regulation of interleukin-1 production"
##                      "positive regulation of endothelial cell proliferation"
##                      "regulation of synaptic transmission, GABAergic"
##                      "cellular response to tumor necrosis factor"
##                      "negative regulation of telomerase activity"
##                      "regulation of cell-cell adhesion"
##                      "positive regulation of vitamin D receptor signaling pathway"
##                      "protein localization to chromatin"
##                      "hepatocyte growth factor receptor signaling pathway"
##                      "positive regulation of cell motility"
##                      "liver regeneration"
##                      "negative regulation of histone H3-K4 methylation"
##                      "positive regulation of histone H2B ubiquitination"
##                      "endothelial cell activation"
##                      "negative regulation of protein oligomerization"
##                      "positive regulation of osteoblast proliferation"
##                      "regulation of apoptotic process"
##                      "negative regulation of T cell cytokine production"
```

```
##                     "negative regulation of cell adhesion mediated by integrin"
##                     "regulation of systemic arterial blood pressure by endothelin"
##                     "regulation of smooth muscle contraction"
##                     "positive regulation of ossification"
##                     "positive regulation of phagocytosis, engulfment"
##                     "protein kinase C signaling"
##                     "cell-cell adhesion"
##                     "response to cholesterol"
##                     "type I interferon signaling pathway"
##                     "negative regulation of neurotrophin TRK receptor signaling pathway"
##                     "negative regulation of interleukin-1 beta production"
##                     "serotonin receptor signaling pathway"
##                     "macrophage derived foam cell differentiation"
##                     "cytoplasmic microtubule organization"
##                     "nuclear envelope disassembly"
##                     "positive regulation of epidermal growth factor-activated receptor activity"
##                     "regulation of DNA methylation"
##                     "positive regulation of apoptotic signaling pathway"
##                     "positive regulation of nitric oxide biosynthetic process"
##                     "negative regulation of protein secretion"
##                     "embryonic placenta morphogenesis"
##                     "drinking behavior"
##                     "posttranscriptional regulation of gene expression"
##                     "response to histamine"
##                     "negative regulation of extrinsic apoptotic signaling pathway via death domain rec
##                     "negative regulation of nucleic acid-templated transcription"
##                     "regulation of microtubule motor activity"
##                     "regulation of chromosome segregation"
##                     "cytokine secretion"
##                     "negative regulation of phosphorylation"
##                     "positive regulation of epithelial to mesenchymal transition involved in endocardi
##                     "synaptic vesicle exocytosis"
##                     "regulation of megakaryocyte differentiation"
##                     "brain development"
##                     "negative regulation of vascular associated smooth muscle cell migration"
##                     "actin filament polymerization"
##                     "negative regulation of chondrocyte differentiation"
##                     "epithelial to mesenchymal transition involved in endocardial cushion formation"
##                     "negative regulation of dendritic cell apoptotic process"
##                     "negative regulation of helicase activity"
##                     "coronary artery morphogenesis"
##                     "negative regulation of G1/S transition of mitotic cell cycle"
##                     "positive regulation of JUN kinase activity"
##                     "post-embryonic development"
##                     "erythrocyte differentiation"
##                     "positive regulation of aspartic-type endopeptidase activity involved in amyloid p
##                     "negative regulation of peptidyl-tyrosine phosphorylation"
##                     "cardiac muscle hypertrophy"
##                     "positive regulation of T cell anergy"
##                     "positive regulation of penile erection"
##                     "negative regulation of synaptic transmission, GABAergic"
##                     "positive regulation of epithelial cell apoptotic process"
##                     "negative regulation of blood vessel endothelial cell migration"
##                     "mitotic spindle organization"
```

```
##                     "positive regulation of blood coagulation"
##                     "interferon-gamma secretion"
##                     "replication fork processing"
##                     "positive regulation of intracellular protein transport"
##                     "phospholipase C-activating G protein-coupled acetylcholine receptor signaling pathw
##                     "DNA recombination"
##                     "positive regulation of vascular endothelial growth factor receptor signaling pathw
##                     "positive regulation of ubiquitin-dependent protein catabolic process"
##                     "positive regulation of histone deacetylation"
##                     "positive regulation of vesicle fusion"
##                     "spermatogenesis"
##                     "histone H3-K4 trimethylation"
##                     "neuroblast proliferation"
##                     "positive regulation of epithelial cell proliferation involved in lung morphogenes
##                     "negative regulation of focal adhesion assembly"
##                     "regulation of calcium ion transport"
##                     "negative regulation of lipid catabolic process"
##                     "heart process"
##                     "attachment of spindle microtubules to kinetochore"
##                     "regulation of norepinephrine secretion"
##                     "regulation of osteoblast differentiation"
##                     "negative regulation of synaptic transmission, glutamatergic"
##                     "response to prostaglandin E"
##                     "induction of positive chemotaxis"
##                     "somite development"
##                     "positive regulation of basement membrane assembly involved in embryonic body morph
##                     "negative regulation of epithelial cell proliferation"
##                     "anatomical structure formation involved in morphogenesis"
##                     "regulation of immune response"
##                     "hormone metabolic process"
##                     "positive regulation of protein targeting to membrane"
##                     "regulation of stem cell population maintenance"
##                     "prepulse inhibition"
##                     "negative regulation of angiogenesis"
##                     "negative regulation of interleukin-6 production"
##                     "regulation of gene expression"
##                     "positive regulation of cell adhesion mediated by integrin"
##                     "regulation of skeletal muscle cell differentiation"
##                     "skeletal muscle cell differentiation"
##                     "cellular response to interleukin-2"
##                     "cellular response to wortmannin"
##                     "cellular response to prolactin"
##                     "cellular response to organic cyclic compound"
##                     "response to ionizing radiation"
##                     "mast cell degranulation"
##                     "neurotransmitter secretion"
##                     "internal peptidyl-lysine acetylation"
##                     "regulation of genetic imprinting"
##                     "amylin receptor signaling pathway"
##                     "neuronal action potential"
##                     "convergent extension involved in neural plate elongation"
##                     "male sex determination"
##                     "regulation of phosphatidylinositol 3-kinase activity"
##                     "cell-cell junction assembly"
```

```
##                          "positive regulation of MAP kinase activity"
##                          "positive regulation of glucose mediated signaling pathway"
##                          "cellular response to fluid shear stress"
##                          "extracellular matrix organization"
##                          "positive regulation of transcription by RNA polymerase III"
##                          "negative regulation of endothelial cell apoptotic process"
##                          "maintenance of chromatin silencing"
##                          "homeostasis of number of cells"
##                          "positive regulation of DNA topoisomerase (ATP-hydrolyzing) activity"
##                          "negative chemotaxis"
##                          "attachment of mitotic spindle microtubules to kinetochore"
##                          "inner cell mass cell proliferation"
##                          "secondary palate development"
##                          "positive regulation of vascular endothelial cell proliferation"
##                          "negative regulation of BMP signaling pathway"
##                          "DNA-templated transcription, termination"
##                          "positive regulation of neutrophil apoptotic process"
##                          "base-excision repair"
##                          "positive regulation of appetite"
##                          "exonucleolytic nuclear-transcribed mRNA catabolic process involved in deadenylati
##                          "establishment of skin barrier"
##                          "blood coagulation"
##                          "positive regulation of actin filament bundle assembly"
##                          "negative regulation of natural killer cell mediated cytotoxicity"
##                          "protein kinase B signaling"
##                          "negative regulation of immune response"
##                          "regulation of angiogenesis"
##                          "actin filament branching"
##                          "regulation of blood vessel diameter"
##                          "positive regulation of leukocyte chemotaxis"
##                          "positive regulation of histone H4 acetylation"
##                          "protein localization to microtubule"
##                          "positive regulation of smooth muscle cell differentiation"
##                          "regulation of microtubule polymerization or depolymerization"
##                          "regulation of transcription by RNA polymerase I"
##                          "positive regulation of non-membrane spanning protein tyrosine kinase activity"
##                          "intracellular transport"
##                          "limb development"
##                          "receptor transactivation"
##                          "memory"
##                          "positive thymic T cell selection"
##                          "regulation of cell shape"
##                          "positive regulation of protein localization to centrosome"
##                          "cellular response to hepatocyte growth factor stimulus"
##                          "tolerance induction to self antigen"
##                          "DNA duplex unwinding"
##                          "gastric acid secretion"
##                          "regulation of neurotransmitter receptor localization to postsynaptic specializati
##                          "chromosome condensation"
##                          "Wnt signaling pathway"
##                          "release of sequestered calcium ion into cytosol"
##                          "nucleic acid phosphodiester bond hydrolysis"
##                          "positive regulation of neuroblast proliferation"
##                          "mRNA 3'-end processing by stem-loop binding and cleavage"
```

```
##                      "kinetochore assembly"
##                      "methylation-dependent chromatin silencing"
##                      "microtubule anchoring"
##                      "white fat cell differentiation"
##                      "negative regulation of histone H3-K9 methylation"
##                      "cellular response to X-ray"
##                      "negative regulation of endopeptidase activity"
##                      "regulation of pri-miRNA transcription by RNA polymerase II"
##                      "positive regulation of protein import into nucleus"
##                      "cellular response to glucose stimulus"
##                      "positive regulation of cardiac muscle cell proliferation"
##                      "regulation of metaphase plate congression"
##                      "regulation of mRNA polyadenylation"
##                      "regulation of DNA repair"
##                      "regulation of systemic arterial blood pressure by vasopressin"
##                      "regulation of myeloid cell differentiation"
##                      "regulation of axon extension"
##                      "response to mineralocorticoid"
##                      "regulation of intracellular estrogen receptor signaling pathway"
##                      "negative regulation of gene silencing by miRNA"
##                      "positive regulation of cellular component movement"
##                      "cellular response to interferon-gamma"
##                      "negative regulation of dendritic spine development"
##                      "Fc-epsilon receptor signaling pathway"
##                      "negative regulation of blood pressure"
##                      "seminiferous tubule development"
##                      "regulation of postsynaptic neurotransmitter receptor activity"
##                      "regulation of autophagy"
##                      "positive regulation of smooth muscle cell proliferation"
##                      "gamma-aminobutyric acid signaling pathway"
##                      "positive regulation of DNA damage response, signal transduction by p53 class media
##                      "regulation of vitamin D receptor signaling pathway"
##                      "positive regulation of cellular protein metabolic process"
##                      "positive regulation of reactive oxygen species metabolic process"
##                      "positive regulation of intracellular estrogen receptor signaling pathway"
##                      "cell growth involved in cardiac muscle cell development"
##                      "embryonic hemopoiesis"
##                      "positive regulation of neurogenesis"
##                      "beta-catenin destruction complex disassembly"
##                      "negative regulation of MHC class II biosynthetic process"
##                      "positive regulation of receptor internalization"
##                      "cellular response to vascular endothelial growth factor stimulus"
##                      "growth hormone receptor signaling pathway"
##                      "skin development"
##                      "Notch signaling pathway"
##                      "protein localization"
##                      "nuclear migration"
##                      "positive regulation of viral transcription"
##                      "phosphorylation of RNA polymerase II C-terminal domain"
##                      "cellular response to indole-3-methanol"
##                      "dorsal/ventral pattern formation"
##                      "regulation of cell motility"
##                      "positive regulation of circadian rhythm"
##                      "mitotic centrosome separation"
```

```
##                     "inner ear development"
##                     "regulation of lamellipodium assembly"
##                     "positive regulation of histone H3-K9 methylation"
##                     "cytoskeletal anchoring at plasma membrane"
##                     "negative regulation of cell cycle"
##                     "G protein-coupled serotonin receptor signaling pathway"
##                     "platelet formation"
##                     "cellular response to hormone stimulus"
##                     "fibrinolysis"
##                     "regulation of postsynaptic membrane potential"
##                     "phospholipase C-activating dopamine receptor signaling pathway"
##                     "positive regulation of systemic arterial blood pressure"
##                     "regulation of smooth muscle cell proliferation"
##                     "developmental growth"
##                     "regulation of signal transduction by p53 class mediator"
##                     "aorta development"
##                     "embryonic skeletal system morphogenesis"
##                     "pigmentation"
##                     "positive regulation of peptidyl-threonine phosphorylation"
##                     "somatostatin signaling pathway"
##                     "regulation of hormone secretion"
##                     "energy homeostasis"
##                     "regulation of renal sodium excretion"
##                     "embryonic hindlimb morphogenesis"
##                     "signal transduction in response to DNA damage"
##                     "regulation of transforming growth factor beta receptor signaling pathway"
##                     "histone H3 acetylation"
##                     "activated T cell proliferation"
##                     "positive regulation of fat cell differentiation"
##                     "negative regulation of protein binding"
##                     "lung alveolus development"
##                     "dopamine metabolic process"
##                     "negative regulation of adenylate cyclase-activating G protein-coupled receptor si
##                     "negative regulation of interleukin-2 production"
##                     "regulation of neurogenesis"
##                     "regulation of chemotaxis"
##                     "RNA phosphodiester bond hydrolysis, endonucleolytic"
##                     "negative regulation of cell motility"
##                     "intermediate filament organization"
##                     "protein localization to chromosome, telomeric region"
##                     "osteoclast development"
##                     "cytokine production"
##                     "fungiform papilla formation"
##                     "coronary vasculature development"
##                     "sensory perception of taste"
##                     "activation of MAPK activity"
##                     "positive regulation of muscle cell differentiation"
##                     "branching morphogenesis of an epithelial tube"
##                     "odontogenesis of dentin-containing tooth"
##                     "telomere maintenance via semi-conservative replication"
##                     "endothelial cell migration"
##                     "regulation of inflammatory response"
##                     "positive regulation of G1/S transition of mitotic cell cycle"
##                     "vesicle docking"
```

```
##                      "negative regulation of protein tyrosine kinase activity"
##                      "negative regulation of cardiac muscle hypertrophy in response to stress"
##                      "protein localization to cytoplasmic stress granule"
##                      "nucleotide-excision repair, preincision complex stabilization"
##                      "female pregnancy"
##                      "vein smooth muscle contraction"
##                      "artery morphogenesis"
##                      "hair follicle placode formation"
##                      "protein autoubiquitination"
##                      "signal transduction involved in DNA damage checkpoint"
##                      "retinoic acid receptor signaling pathway"
##                      "positive regulation of neuron projection development"
##                      "prostate gland development"
##                      "eosinophil chemotaxis"
##                      "negative regulation of protein serine/threonine kinase activity"
##                      "dendrite development"
##                      "regulation of epithelial to mesenchymal transition"
##                      "positive regulation of cell migration involved in sprouting angiogenesis"
##                      "establishment of T cell polarity"
##                      "T cell differentiation"
##                      "positive regulation of chondrocyte differentiation"
##                      "chromatin assembly"
##                      "maternal behavior"
##                      "epidermal cell differentiation"
##                      "maternal process involved in female pregnancy"
##                      "synapse assembly"
##                      "positive regulation of T cell receptor signaling pathway"
##                      "adenylate cyclase-inhibiting dopamine receptor signaling pathway"
##                      "lamellipodium assembly"
##                      "regulation of regulatory T cell differentiation"
##                      "homophilic cell adhesion via plasma membrane adhesion molecules"
##                      "CRD-mediated mRNA stabilization"
##                      "bleb assembly"
##                      "semaphorin-plexin signaling pathway"
##                      "sprouting angiogenesis"
##                      "positive regulation of uterine smooth muscle contraction"
##                      "positive regulation of glutamate secretion"
##                      "locomotory behavior"
##                      "dendrite morphogenesis"
##                      "negative regulation of centriole replication"
##                      "actin filament capping"
##                      "positive regulation of transcription elongation from RNA polymerase II promoter"
##                      "response to retinoic acid"
##                      "positive regulation of prostaglandin biosynthetic process"
##                      "pattern specification process"
##                      "positive regulation of B cell activation"
##                      "positive regulation of cold-induced thermogenesis"
##                      "entrainment of circadian clock by photoperiod"
##                      "mRNA 3'-splice site recognition"
##                      "negative regulation of stress fiber assembly"
##                      "viral process"
##                      "smoothened signaling pathway"
##                      "phototransduction"
##                      "regulation of cell cycle G2/M phase transition"
```

```
##                  "mRNA cleavage"
##                  "negative regulation of cyclin-dependent protein serine/threonine kinase activity"
##                  "regulation of actin cytoskeleton organization"
##                  "positive regulation of transcription of nucleolar large rRNA by RNA polymerase I"
##                  "positive regulation of cell-matrix adhesion"
##                  "cell fate commitment"
##                  "adenosine receptor signaling pathway"
##                  "sphingosine-1-phosphate receptor signaling pathway"
##                  "mitotic metaphase plate congression"
##                  "thrombin-activated receptor signaling pathway"
##                  "negative regulation of glutamate secretion"
##                  "antigen processing and presentation of exogenous peptide antigen via MHC class II
##                  "intrinsic apoptotic signaling pathway by p53 class mediator"
##                  "regulation of vascular permeability"
##                  "T cell chemotaxis"
##                  "activin receptor signaling pathway"
##                  "negative regulation of norepinephrine secretion"
##                  "positive regulation of histone H3-K9 acetylation"
##                  "transforming growth factor beta receptor signaling pathway"
##                  "negative regulation of RNA splicing"
##                  "positive regulation of hormone secretion"
##                  "endoderm development"
##                  "protein localization to kinetochore"
##                  "atrioventricular canal development"
##                  "inositol phosphate-mediated signaling"
##                  "nucleosome disassembly"
##                  "negative regulation of mRNA polyadenylation"
##                  "mRNA stabilization"
##                  "central nervous system development"
##                  "double-strand break repair via homologous recombination"
##                  "vesicle fusion"
##                  "negative regulation of osteoblast differentiation"
##                  "platelet-derived growth factor receptor signaling pathway"
##                  "meiotic cell cycle"
##                  "SCF-dependent proteasomal ubiquitin-dependent protein catabolic process"
##                  "positive regulation of RNA export from nucleus"
##                  "outflow tract septum morphogenesis"
##                  "negative regulation of cAMP-mediated signaling"
##                  "positive regulation of transcription from RNA polymerase II promoter involved in
##                  "positive regulation of cardiac muscle cell differentiation"
##                  "positive regulation of sprouting angiogenesis"
##                  "pharyngeal system development"
##                  "regulation of heart contraction"
##                  "circadian regulation of gene expression"
##                  "regulation of translation"
##                  "somitogenesis"
##                  "phagocytosis, recognition"
##                  "mRNA transcription"
##                  "negative regulation of peptidyl-serine phosphorylation"
##                  "neuropilin signaling pathway"
##                  "positive regulation of pseudopodium assembly"
##                  "positive regulation of insulin receptor signaling pathway"
##                  "mitotic sister chromatid segregation"
##                  "ERBB2 signaling pathway"
```

```
##                      "regulation of behavior"
##                      "nucleotide-excision repair"
##                      "stress granule assembly"
##                      "primary miRNA processing"
##                      "positive regulation of ruffle assembly"
##                      "histone H4 deacetylation"
##                      "positive regulation of cell adhesion"
##                      "regulation of cell adhesion mediated by integrin"
##                      "protein K6-linked ubiquitination"
##                      "neutrophil activation"
##                      "positive regulation of urine volume"
##                      "collagen fibril organization"
##                      "sensory perception of smell"
##                      "cardiac muscle cell apoptotic process"
##                      "mitotic sister chromatid cohesion"
##                      "positive regulation of macrophage differentiation"
##                      "regulation of cytokinesis"
##                      "response to estradiol"
##                      "ureteric bud development"
##                      "osteoblast development"
##                      "adherens junction organization"
##                      "skeletal muscle tissue development"
##                      "positive regulation of intrinsic apoptotic signaling pathway by p53 class mediato
##                      "neuronal stem cell population maintenance"
##                      "regulation of G2/M transition of mitotic cell cycle"
##                      "uterus development"
##                      "positive regulation of cytokinesis"
##                      "histone deacetylation"
##                      "positive regulation of pathway-restricted SMAD protein phosphorylation"
##                      "regulation of double-strand break repair via homologous recombination"
##                      "ruffle organization"
##                      "adenylate cyclase-inhibiting G protein-coupled glutamate receptor signaling pathwa
##                      "MAPK cascade"
##                      "dopamine receptor signaling pathway"
##                      "intracellular estrogen receptor signaling pathway"
##                      "sensory perception"
##                      "O-glycan processing"
##                      "pathway-restricted SMAD protein phosphorylation"
##                      "microtubule organizing center organization"
##                      "cellular response to ionizing radiation"
##                      "positive regulation of translational initiation"
##                      "striated muscle cell differentiation"
##                      "chromatin organization"
##                      "myoblast differentiation"
##                      "regulation of mRNA splicing, via spliceosome"
##                      "positive regulation of phospholipase C activity"
##                      "positive regulation of calcium ion import"
##                      "positive regulation of ubiquitin-protein transferase activity"
##                      "positive regulation of neutrophil chemotaxis"
##                      "cell maturation"
##                      "response to acidic pH"
##                      "retinal ganglion cell axon guidance"
##                      "positive regulation of cell cycle arrest"
##                      "nucleosome positioning"
```

```
##                     "N-terminal peptidyl-lysine acetylation"
##                     "positive regulation of proteolysis"
##                     "endocytosis"
##                     "negative regulation of I-kappaB kinase/NF-kappaB signaling"
##                     "protein targeting to membrane"
##                     "protein K11-linked ubiquitination"
##                     "axonogenesis"
##                     "signal complex assembly"
##                     "G-quadruplex DNA unwinding"
##                     "negative regulation of DNA-binding transcription factor activity"
##                     "social behavior"
##                     "artery smooth muscle contraction"
##                     "negative regulation of MAP kinase activity"
##                     "DNA damage response, signal transduction by p53 class mediator resulting in transc
##                     "negative regulation of tumor necrosis factor production"
##                     "positive regulation of protein phosphorylation"
##                     "glycosaminoglycan biosynthetic process"
##                     "ribosomal large subunit biogenesis"
##                     "negative regulation of protein kinase activity"
##                     "negative regulation of viral genome replication"
##                     "non-canonical Wnt signaling pathway"
##                     "DNA damage response, signal transduction by p53 class mediator resulting in cell
##                     "positive regulation of gene expression"
##                     "mRNA transcription by RNA polymerase II"
##                     "Rho protein signal transduction"
##                     "positive regulation of extrinsic apoptotic signaling pathway"
##                     "phagocytosis"
##                     "negative regulation of JNK cascade"
##                     "stimulatory C-type lectin receptor signaling pathway"
##                     "positive regulation of translation"
##                     "positive regulation of chemotaxis"
##                     "protein ubiquitination"
##                     "vesicle docking involved in exocytosis"
##                     "positive regulation of DNA repair"
##                     "positive regulation of cAMP-mediated signaling"
##                     "estrous cycle"
##                     "mitotic spindle assembly checkpoint"
##                     "macrophage chemotaxis"
##                     "response to amphetamine"
##                     "regulation of mRNA processing"
##                     "negative regulation of chromatin silencing"
##                     "alpha-beta T cell differentiation"
##                     "regulation of focal adhesion assembly"
##                     "complement receptor mediated signaling pathway"
##                     "adult walking behavior"
##                     "negative regulation of protein complex assembly"
##                     "adenylate cyclase-inhibiting G protein-coupled acetylcholine receptor signaling pa
##                     "positive regulation of sensory perception of pain"
##                     "regulation of circadian rhythm"
##                     "positive regulation of interleukin-1 beta production"
##                     "positive regulation of interleukin-4 production"
##                     "negative regulation of ERK1 and ERK2 cascade"
##                     "protein K63-linked ubiquitination"
##                     "protein kinase C-activating G protein-coupled receptor signaling pathway"
```

```
##                     "positive regulation of epidermal growth factor receptor signaling pathway"
##                     "double-strand break repair"
##                     "DNA replication initiation"
##                     "cellular response to platelet-derived growth factor stimulus"
##                     "Rac protein signal transduction"
##                     "intraciliary transport involved in cilium assembly"
##                     "protein localization to plasma membrane"
##                     "regulation of cell adhesion"
##                     "behavioral response to ethanol"
##                     "negative regulation of fat cell differentiation"
##                     "negative regulation of osteoclast differentiation"
##                     "positive regulation of filopodium assembly"
##                     "ribosomal small subunit biogenesis"
##                     "pri-miRNA transcription by RNA polymerase II"
##                     "branching involved in mammary gland duct morphogenesis"
##                     "intrinsic apoptotic signaling pathway in response to DNA damage by p53 class media
##                     "regulation of vasoconstriction"
##                     "negative regulation of ubiquitin protein ligase activity"
##                     "intracellular steroid hormone receptor signaling pathway"
##                     "negative regulation of cellular senescence"
##                     "response to virus"
##                     "centriole replication"
##                     "positive regulation of MAPK cascade"
##                     "DNA double-strand break processing"
##                     "cellular protein localization"
##                     "defense response to bacterium"
##                     "positive regulation of mitotic nuclear division"
##                     "positive regulation of actin filament polymerization"
##                     "epithelial to mesenchymal transition"
##                     "positive regulation of calcium ion transport"
##                     "positive regulation of interleukin-6 secretion"
##                     "planar cell polarity pathway involved in neural tube closure"
##                     "negative regulation of insulin receptor signaling pathway"
##                     "macrophage differentiation"
##                     "regulation of hematopoietic stem cell differentiation"
##                     "negative regulation of T cell proliferation"
##                     "regulation of RNA splicing"
##                     "embryonic pattern specification"
##                     "negative regulation of smoothened signaling pathway"
##                     "positive regulation of glucose import in response to insulin stimulus"
##                     "mitotic nuclear envelope disassembly"
##                     "megakaryocyte development"
##                     "cellular defense response"
##                     "response to progesterone"
##                     "postreplication repair"
##                     "sister chromatid cohesion"
##                     "CENP-A containing nucleosome assembly"
##                     "positive regulation of focal adhesion assembly"
##                     "cellular response to cytokine stimulus"
##                     "muscle organ development"
##                     "adaptive immune response"
##                     "ciliary basal body-plasma membrane docking"
##                     "defense response"
##                     "somatic stem cell population maintenance"
```

```
##                     "protein K48-linked ubiquitination"
##                     "import into nucleus"
##                     "transcription-coupled nucleotide-excision repair"
##                     "positive regulation of cell division"
##                     "protein heterotrimerization"
##                     "mitotic spindle assembly"
##                     "opioid receptor signaling pathway"
##                     "positive regulation of T cell chemotaxis"
##                     "branching involved in blood vessel morphogenesis"
##                     "G protein-coupled glutamate receptor signaling pathway"
##                     "T cell receptor signaling pathway"
##                     "positive regulation of receptor-mediated endocytosis"
##                     "G protein-coupled purinergic nucleotide receptor signaling pathway"
##                     "positive regulation of neuron differentiation"
##                     "positive regulation of monocyte chemotaxis"
##                     "integrin-mediated signaling pathway"
##                     "cellular response to catecholamine stimulus"
##                     "negative regulation of protein kinase B signaling"
##                     "regulation of smoothened signaling pathway"
##                     "BMP signaling pathway"
##                     "activation of GTPase activity"
##                     "cognition"
##                     "protein polyubiquitination"
##                     "positive regulation of tyrosine phosphorylation of STAT protein"
##                     "regulation of cell cycle"
##                     "negative regulation of Wnt signaling pathway"
##                     "regulation of microtubule cytoskeleton organization"
##                     "positive regulation of positive chemotaxis"
##                     "centrosome localization"
##                     "protein acetylation"
##                     "positive regulation of cardiac muscle hypertrophy"
##                     "positive regulation of blood pressure"
##                     "embryonic cranial skeleton morphogenesis"
##                     "microtubule bundle formation"
##                     "complement activation, classical pathway"
##                     "ephrin receptor signaling pathway"
##                     "positive regulation of tumor necrosis factor production"
##                     "cholesterol metabolic process"
##                     "Wnt signaling pathway, planar cell polarity pathway"
##                     "positive regulation of microtubule polymerization"
##                     "regulation of gene silencing by miRNA"
##                     "G protein-coupled acetylcholine receptor signaling pathway"
##                     "mRNA splice site selection"
##                     "positive regulation of JNK cascade"
##                     "RNA splicing, via transesterification reactions"
##                     "nervous system development"
##                     "positive regulation of blood vessel endothelial cell migration"
##                     "intracellular signal transduction"
##                     "cornification"
##                     "positive regulation of actin cytoskeleton reorganization"
##                     "entry of bacterium into host cell"
##                     "positive regulation of oligodendrocyte differentiation"
##                     "3'-UTR-mediated mRNA stabilization"
##                     "long-term memory"
```

```
##                    "DNA methylation"
##                    "positive regulation of collagen biosynthetic process"
##                    "keratinocyte differentiation"
##                    "response to wounding"
##                    "complement activation"
##                    "response to estrogen"
##                    "negative regulation of NF-kappaB transcription factor activity"
##                    "embryonic digit morphogenesis"
##                    "transmembrane receptor protein tyrosine kinase signaling pathway"
##                    "neural tube closure"
##                    "actin cytoskeleton reorganization"
##                    "positive regulation of smooth muscle cell migration"
##                    "actin cytoskeleton organization"
##                    "canonical Wnt signaling pathway"
##                    "cochlea morphogenesis"
##                    "digestive tract development"
##                    "protein phosphorylation"
##                    "hemopoiesis"
##                    "vasculogenesis"
##                    "Fc-gamma receptor signaling pathway involved in phagocytosis"
##                    "B cell receptor signaling pathway"
##                    "DNA repair"
##                    "regulation of complement activation"
##                    "cell cycle arrest"
##                    "cell projection assembly"
##                    "negative regulation of epidermal growth factor receptor signaling pathway"
##                    "positive regulation of DNA-binding transcription factor activity"
##                    "forebrain development"
##                    "negative regulation of gene expression"
##                    "blood circulation"
##                    "negative regulation of mRNA splicing, via spliceosome"
##                    "neuron projection development"
##                    "anterior/posterior pattern specification"
##                    "rhodopsin mediated signaling pathway"
##                    "arachidonic acid secretion"
##                    "negative regulation of inflammatory response"
##                    "positive regulation of substrate adhesion-dependent cell spreading"
##                    "positive regulation of renal sodium excretion"
##                    "interferon-gamma-mediated signaling pathway"
##                    "mitotic cell cycle checkpoint"
##                    "positive regulation of vasoconstriction"
##                    "positive regulation of cell growth"
##                    "positive regulation of lamellipodium assembly"
##                    "G protein-coupled receptor internalization"
##                    "positive regulation of histone H3-K4 methylation"
##                    "positive regulation of mRNA splicing, via spliceosome"
##                    "positive regulation of type I interferon production"
##                    "G2/M transition of mitotic cell cycle"
##                    "dendritic cell chemotaxis"
##                    "positive regulation of transcription of Notch receptor target"
##                    "negative regulation of canonical Wnt signaling pathway"
##                    "cell cycle"
##                    "negative regulation of viral release from host cell"
##                    "RNA processing"
```

```
##                  "positive regulation of smooth muscle contraction"
##                  "ventricular septum morphogenesis"
##                  "telomere maintenance"
##                  "activation of innate immune response"
##                  "regulation of stress fiber assembly"
##                  "interleukin-6-mediated signaling pathway"
##                  "wound healing"
##                  "histone mRNA metabolic process"
##                  "visual learning"
##                  "Ras protein signal transduction"
##                  "positive regulation of protein kinase activity"
##                  "phosphatidylinositol-3-phosphate biosynthetic process"
##                  "phagocytosis, engulfment"
##                  "pre-mRNA cleavage required for polyadenylation"
##                  "spliceosomal snRNP assembly"
##                  "epidermal growth factor receptor signaling pathway"
##                  "sensory perception of pain"
##                  "positive chemotaxis"
##                  "positive regulation of epithelial to mesenchymal transition"
##                  "eating behavior"
##                  "lymphocyte chemotaxis"
##                  "defense response to virus"
##                  "spliceosomal complex assembly"
##                  "positive regulation of vascular endothelial growth factor production"
##                  "cytokine-mediated signaling pathway"
##                  "hormone-mediated signaling pathway"
##                  "positive regulation of cell cycle"
##                  "regulation of cell growth"
##                  "adenylate cyclase-activating dopamine receptor signaling pathway"
##                  "cell adhesion"
##                  "negative regulation of adenylate cyclase activity"
##                  "leukocyte chemotaxis"
##                  "ATP-dependent chromatin remodeling"
##                  "in utero embryonic development"
##                  "positive regulation of protein localization to nucleus"
##                  "positive regulation of phosphatidylinositol 3-kinase activity"
##                  "alternative mRNA splicing, via spliceosome"
##                  "cell migration"
##                  "regulation of mitotic cell cycle"
##                  "negative regulation of cell proliferation"
##                  "phosphatidylinositol phosphorylation"
##                  "vasoconstriction"
##                  "positive regulation of protein kinase B signaling"
##                  "RNA export from nucleus"
##                  "microtubule-based movement"
##                  "regulation of cell migration"
##                  "positive regulation of peptidyl-tyrosine phosphorylation"
##                  "animal organ morphogenesis"
##                  "centrosome cycle"
##                  "peptidyl-tyrosine phosphorylation"
##                  "regulation of sensory perception of pain"
##                  "monocyte chemotaxis"
##                  "cellular response to lipopolysaccharide"
##                  "skeletal system development"
```

```
##                         "positive regulation of Notch signaling pathway"
##                         "mRNA cis splicing, via spliceosome"
##                         "androgen receptor signaling pathway"
##                         "positive regulation of Rho protein signal transduction"
##                         "rRNA processing"
##                         "positive regulation of stress fiber assembly"
##                         "leukocyte migration"
##                         "chromatin remodeling"
##                         "positive regulation of phosphatidylinositol 3-kinase signaling"
##                         "activation of phospholipase C activity"
##                         "vascular endothelial growth factor receptor signaling pathway"
##                         "cellular response to transforming growth factor beta stimulus"
##                         "positive regulation of cell proliferation"
##                         "platelet activation"
##                         "regulation of cell proliferation"
##                         "7-methylguanosine mRNA capping"
##                         "axon guidance"
##                         "feeding behavior"
##                         "positive regulation of ERK1 and ERK2 cascade"
##                         "mRNA processing"
##                         "heart development"
##                         "positive regulation of cell migration"
##                         "cell division"
##                         "keratinization"
##                         "cell differentiation"
##                         "cytoplasmic translation"
##                         "rhythmic process"
##                         "DNA replication"
##                         "fibroblast growth factor receptor signaling pathway"
##                         "regulation of alternative mRNA splicing, via spliceosome"
##                         "T cell costimulation"
##                         "angiogenesis"
##                         "neutrophil chemotaxis"
##                         "detection of chemical stimulus involved in sensory perception of bitter taste"
##                         "termination of RNA polymerase II transcription"
##                         "adenylate cyclase-modulating G protein-coupled receptor signaling pathway"
##                         "innate immune response"
##                         "transcription elongation from RNA polymerase II promoter"
##                         "translational initiation"
##                         "positive regulation of angiogenesis"
##                         "cell surface receptor signaling pathway"
##                         "chemical synaptic transmission"
##                         "calcium-mediated signaling"
##                         "positive regulation of cytosolic calcium ion concentration involved in phospholip
##                         "RNA metabolic process"
##                         "cell chemotaxis"
##                         "transcription initiation from RNA polymerase II promoter"
##                         "chemokine-mediated signaling pathway"
##                         "RNA splicing"
##                         "snRNA transcription by RNA polymerase II"
##                         "cell-cell signaling"
##                         "chemotaxis"
##                         "G protein-coupled receptor signaling pathway, coupled to cyclic nucleotide second
##                         "adenylate cyclase-activating G protein-coupled receptor signaling pathway"
```

```
##                    "mRNA export from nucleus"
##                    "mRNA 3'-end processing"
##                    "negative regulation of transcription, DNA-templated"
##                    "multicellular organism development"
##                    "positive regulation of transcription, DNA-templated"
##                    "adenylate cyclase-inhibiting G protein-coupled receptor signaling pathway"
##                    "regulation of signaling receptor activity"
##                    "immune response"
##                    "phospholipase C-activating G protein-coupled receptor signaling pathway"
##                    "cell proliferation"
##                    "signal transduction"
##                    "SRP-dependent cotranslational protein targeting to membrane"
##                    "nuclear-transcribed mRNA catabolic process, nonsense-mediated decay"
##                    "negative regulation of transcription by RNA polymerase II"
##                    "regulation of transcription, DNA-templated"
##                    "transcription by RNA polymerase II"
##                    "inflammatory response"
##                    "neuropeptide signaling pathway"
##                    "positive regulation of cytosolic calcium ion concentration"
##                    "positive regulation of transcription by RNA polymerase II"
##                    "mRNA splicing, via spliceosome"
##                    "regulation of transcription by RNA polymerase II"
##                    "G protein-coupled receptor signaling pathway"
##                    "transcription, DNA-templated"
##
## bp.enriched.terms "zscore"   "obs"   "mean"     "std"
##                   "144.024"  "1656"  "100.45"   "10.801"
##                   "124.805"  "1343"  "90.91"    "10.032"
##                   "49.074"   "748"   "130.84"   "12.576"
##                   "49.004"   "355"   "46.8"     "6.289"
##                   "44.657"   "94"    "4.42"     "2.006"
##                   "43.194"   "210"   "19.05"    "4.421"
##                   "38.756"   "818"   "231.87"   "15.124"
##                   "38.18"    "833"   "237.19"   "15.605"
##                   "35.773"   "206"   "24.48"    "5.074"
##                   "35.398"   "174"   "20.98"    "4.323"
##                   "33.534"   "178"   "20.03"    "4.711"
##                   "32.913"   "387"   "85.6"     "9.157"
##                   "29.852"   "1273"  "573.26"   "23.44"
##                   "29.019"   "200"   "28.93"    "5.895"
##                   "28.78"    "30"    "1.22"     "0.938"
##                   "28.475"   "525"   "169.18"   "12.496"
##                   "27.771"   "286"   "60.93"    "8.104"
##                   "27.737"   "432"   "125.52"   "11.049"
##                   "27.488"   "82"    "6.9"      "2.732"
##                   "27.423"   "143"   "17.87"    "4.563"
##                   "26.916"   "63"    "4.58"     "2.17"
##                   "26.746"   "451"   "141.85"   "11.559"
##                   "24.558"   "46"    "3.27"     "1.74"
##                   "24.178"   "82"    "9.83"     "2.985"
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##                   "23.964"   "615"   "236.65"   "15.788"
##                   "23.75"    "29"    "1.39"     "1.163"
```

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##                     "23.743" "647"  "274.55"  "15.687"
##                     "23.465" "105"  "16.1"    "3.789"
##                     "22.973" "248"  "66.51"   "7.9"
##                     "22.918" "145"  "24.39"   "5.263"
##                     "22.712" "57"   "5.3"     "2.276"
##                     "22.548" "29"   "1.57"    "1.217"
##                     "22.499" "567"  "215.6"   "15.619"
##                     "21.708" "606"  "250.48"  "16.377"
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##                     "19.651" "285"  "106.77"  "9.07"
##                     "19.484" "43"   "4.48"    "1.977"
##                     "19.186" "60"   "7.77"    "2.722"
##                     "19.184" "548"  "251.81"  "15.439"
##                     "19.098" "553"  "267.96"  "14.925"
##                     "18.656" "77"   "11.31"   "3.521"
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##                     "18.458" "1970" "1364.02" "32.83"
##                     "18.359" "135"  "27.6"    "5.85"
##                     "18.192" "119"  "25.65"   "5.131"
##                     "17.918" "48"   "7.79"    "2.244"
##                     "17.872" "46"   "7.1"     "2.177"
##                     "17.661" "45"   "6.48"    "2.181"
##                     "17.458" "45"   "6.89"    "2.183"
##                     "17.447" "538"  "274.44"  "15.106"
##                     "17.331" "458"  "211.64"  "14.215"
##                     "17.273" "86"   "18.03"   "3.935"
##                     "17.254" "31"   "2.4"     "1.658"
##                     "16.946" "35"   "3.64"    "1.851"
##                     "16.909" "44"   "4.38"    "2.343"
##                     "16.008" "40"   "4.62"    "2.21"
##                     "15.875" "198"  "78.36"   "7.536"
##                     "15.811" "42"   "6.36"    "2.254"
##                     "15.568" "166"  "50.69"   "7.407"
##                     "15.45"  "91"   "23.51"   "4.368"
##                     "15.232" "185"  "60.85"   "8.151"
##                     "15.21"  "16"   "0.79"    "0.924"
##                     "15.051" "102"  "25.45"   "5.086"
##                     "14.602" "670"  "366.2"   "20.806"
##                     "14.464" "75"   "17.19"   "3.997"
##                     "14.341" "153"  "47.91"   "7.328"
##                     "14.291" "211"  "87.11"   "8.669"
##                     "14.244" "388"  "187.73"  "14.06"
##                     "14.078" "70"   "18.28"   "3.674"
##                     "14.05"  "136"  "51.78"   "5.994"
##                     "14.041" "142"  "43.28"   "7.031"
##                     "14.033" "82"   "22.45"   "4.244"
##                     "14.013" "25"   "3"       "1.57"
##                     "13.769" "29"   "3.27"    "1.869"
##                     "13.689" "509"  "287.11"  "16.209"
```

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##                     "13.644"  "386"   "206.37"  "13.165"
##                     "13.637"  "116"   "33.42"   "6.056"
##                     "13.539"  "90"    "26.67"   "4.678"
##                     "13.488"  "306"   "150.4"   "11.537"
##                     "13.385"  "44"    "8.85"    "2.626"
##                     "13.212"  "34"    "5.25"    "2.176"
##                     "13.205"  "74"    "18.85"   "4.176"
##                     "13.196"  "36"    "4.88"    "2.358"
##                     "13.1"    "21"    "2.39"    "1.421"
##                     "12.987"  "23"    "2.38"    "1.588"
##                     "12.98"   "54"    "12.52"   "3.196"
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##                     "12.493"  "51"    "10.98"   "3.203"
##                     "12.472"  "136"   "53.73"   "6.596"
##                     "12.368"  "98"    "33.13"   "5.245"
##                     "12.301"  "40"    "7.11"    "2.674"
##                     "12.26"   "50"    "10.9"    "3.189"
##                     "12.26"   "50"    "10.9"    "3.189"
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##                     "12.26"   "50"    "10.9"    "3.189"
##                     "12.26"   "50"    "10.9"    "3.189"
##                     "12.26"   "50"    "10.9"    "3.189"
##                     "12.26"   "50"    "10.9"    "3.189"
##                     "12.26"   "50"    "10.9"    "3.189"
##                     "12.26"   "50"    "10.9"    "3.189"
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##                     "12.003"  "265"   "130.71"  "11.188"
##                     "12.001"  "241"   "121.56"  "9.953"
##                     "11.955"  "40"    "7.79"    "2.694"
##                     "11.94"   "321"   "187.53"  "11.178"
##                     "11.819"  "93"    "30.95"   "5.25"
##                     "11.812"  "59"    "15.09"   "3.718"
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##                     "11.783"  "162"   "65.34"   "8.203"
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##                     "11.702"  "481"   "276.09"  "17.51"
##                     "11.675"  "83"    "25.53"   "4.923"
##                     "11.479"  "89"    "31.11"   "5.043"
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##                     "11.427"  "87"    "26.06"   "5.333"
##                     "11.317"  "107"   "36.57"   "6.224"
##                     "11.308"  "701"   "433.41"  "23.664"
##                     "11.109"  "51"    "12.5"    "3.466"
##                     "10.904"  "105"   "40"      "5.961"
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##                     "10.714"  "233"   "124.66"  "10.112"
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##                     "10.636"  "17"    "2.04"    "1.406"
##                     "10.55"   "103"   "34.4"    "6.503"
```

```
##                      "10.505" "54"   "14.54"   "3.756"
##                      "10.505" "54"   "14.54"   "3.756"
##                      "10.498" "77"   "31.23"   "4.36"
##                      "10.466" "54"   "14.26"   "3.797"
##                      "10.379" "54"   "14.61"   "3.795"
##                      "10.356" "97"   "36.5"    "5.842"
##                      "10.214" "40"   "11.04"   "2.835"
##                      "10.194" "177"  "92.62"   "8.278"
##                      "10.073" "115"  "47.66"   "6.685"
##                      "10.046" "377"  "241.18"  "13.519"
##                      "10.013" "797"  "539.4"   "25.727"
##                      "9.996"  "47"   "13.86"   "3.315"
##                      "9.994"  "71"   "24.86"   "4.617"
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##                      "9.875"  "76"   "30.8"    "4.577"
##                      "9.867"  "54"   "15.79"   "3.872"
##                      "9.848"  "40"   "10.46"   "3"
##                      "9.828"  "39"   "9.76"    "2.975"
##                      "9.782"  "886"  "598.28"  "29.413"
##                      "9.773"  "71"   "23.93"   "4.816"
##                      "9.716"  "71"   "23.14"   "4.926"
##                      "9.716"  "67"   "23.77"   "4.449"
##                      "9.634"  "36"   "8.22"    "2.884"
##                      "9.583"  "81"   "30.3"    "5.291"
##                      "9.551"  "74"   "27.66"   "4.852"
##                      "9.522"  "59"   "19.42"   "4.156"
##                      "9.455"  "11"   "1.32"    "1.024"
##                      "9.37"   "102"  "46.63"   "5.91"
##                      "9.358"  "142"  "70.9"    "7.598"
##                      "9.347"  "96"   "43.66"   "5.6"
##                      "9.345"  "50"   "14.69"   "3.778"
##                      "9.32"   "10"   "0.68"    "0.723"
##                      "9.32"   "10"   "0.68"    "0.723"
##                      "9.295"  "12"   "1.65"    "1.114"
##                      "9.295"  "12"   "1.65"    "1.114"
##                      "9.292"  "323"  "193.01"  "13.989"
##                      "9.277"  "42"   "12.07"   "3.226"
##                      "9.277"  "42"   "12.07"   "3.226"
##                      "9.263"  "62"   "18.78"   "4.666"
##                      "9.239"  "50"   "14.91"   "3.798"
##                      "9.227"  "105"  "44.67"   "6.538"
##                      "9.198"  "87"   "35.66"   "5.582"
##                      "9.194"  "13"   "1.77"    "1.221"
##                      "9.191"  "19"   "2.88"    "1.754"
##                      "9.181"  "150"  "75.82"   "8.08"
##                      "9.173"  "101"  "42.95"   "6.328"
##                      "9.162"  "104"  "44.49"   "6.496"
##                      "9.156"  "90"   "36.14"   "5.883"
##                      "9.14"   "10"   "0.86"    "0.888"
##                      "9.14"   "10"   "0.86"    "0.888"
##                      "9.091"  "103"  "43.95"   "6.495"
##                      "8.986"  "148"  "79.87"   "7.582"
##                      "8.974"  "29"   "6.73"    "2.482"
```

```
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##                      "8.819"  "967"  "733.54"  "26.473"
##                      "8.775"  "49"   "16.08"   "3.752"
##                      "8.754"  "41"   "11.34"   "3.388"
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##                      "8.638"  "46"   "13.42"   "3.772"
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##                      "8.508"  "248"  "144.67"  "12.146"
##                      "8.475"  "139"  "66.68"   "8.534"
##                      "8.451"  "70"   "26.3"    "5.171"
##                      "8.439"  "48"   "17.09"   "3.663"
##                      "8.362"  "116"  "56.46"   "7.12"
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##                      "8.253"  "39"   "11.71"   "3.307"
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##                      "8.12"   "87"   "32.72"   "6.685"
##                      "8.093"  "108"  "50.04"   "7.162"
##                      "8.08"   "110"  "51.18"   "7.28"
##                      "8.067"  "35"   "11.62"   "2.898"
##                      "8.046"  "53"   "19.53"   "4.16"
##                      "8.008"  "260"  "166.63"  "11.659"
##                      "7.999"  "59"   "22.7"    "4.538"
##                      "7.998"  "62"   "24.63"   "4.672"
##                      "7.982"  "59"   "22.9"    "4.523"
##                      "7.955"  "67"   "29.1"    "4.764"
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##                      "7.885"  "62"   "23.56"   "4.875"
##                      "7.81"   "576"  "400.36"  "22.49"
##                      "7.773"  "132"  "68.48"   "8.172"
##                      "7.772"  "72"   "30.17"   "5.382"
##                      "7.761"  "103"  "51.16"   "6.68"
##                      "7.744"  "55"   "21.03"   "4.387"
##                      "7.728"  "46"   "16.34"   "3.838"
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##                     "7.346"  "48"   "16.95"   "4.227"
##                     "7.331"  "119"  "60.27"   "8.011"
##                     "7.33"   "53"   "20.26"   "4.467"
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##                     "7.236"  "50"   "19.98"   "4.149"
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##                     "7.214"  "13"   "2.03"    "1.521"
##                     "7.214"  "13"   "2.03"    "1.521"
##                     "7.196"  "75"   "34.52"   "5.625"
##                     "7.192"  "85"   "38.63"   "6.447"
##                     "7.188"  "111"  "57.08"   "7.502"
##                     "7.185"  "246"  "163.82"  "11.438"
##                     "7.158"  "65"   "30.52"   "4.817"
##                     "7.141"  "41"   "14.11"   "3.766"
##                     "7.136"  "50"   "19.86"   "4.224"
##                     "7.125"  "240"  "154.28"  "12.031"
##                     "7.109"  "54"   "25.33"   "4.033"
##                     "7.102"  "58"   "24.36"   "4.737"
##                     "7.072"  "188"  "118.28"  "9.859"
##                     "7.061"  "39"   "12.82"   "3.707"
##                     "7.043"  "30"   "9.13"    "2.963"
##                     "7.034"  "33"   "10.96"   "3.133"
##                     "7.022"  "49"   "19.68"   "4.175"
##                     "7.017"  "74"   "32.94"   "5.851"
##                     "7.013"  "26"   "7.99"    "2.568"
##                     "7.013"  "26"   "7.99"    "2.568"
##                     "7.011"  "51"   "20.32"   "4.376"
##                     "6.998"  "73"   "34.09"   "5.56"
##                     "6.982"  "23"   "6.08"    "2.423"
##                     "6.961"  "188"  "118.84"  "9.936"
##                     "6.955"  "52"   "24.09"   "4.013"
##                     "6.952"  "58"   "26.32"   "4.557"
##                     "6.947"  "12"   "2.21"    "1.409"
##                     "6.946"  "16"   "3.84"    "1.751"
```

```
##                     "6.946"  "16"   "3.84"    "1.751"
##                     "6.946"  "16"   "3.84"    "1.751"
##                     "6.943"  "26"   "7.93"    "2.602"
##                     "6.938"  "17"   "4.08"    "1.862"
##                     "6.925"  "57"   "24.01"   "4.764"
##                     "6.918"  "13"   "2.09"    "1.577"
##                     "6.916"  "70"   "30.16"   "5.761"
##                     "6.906"  "77"   "36.42"   "5.876"
##                     "6.904"  "62"   "28.61"   "4.837"
##                     "6.883"  "66"   "31"      "5.085"
##                     "6.877"  "72"   "32.34"   "5.767"
##                     "6.866"  "90"   "45.22"   "6.522"
##                     "6.855"  "51"   "19.69"   "4.568"
##                     "6.847"  "256"  "165.16"  "13.268"
##                     "6.844"  "63"   "26.27"   "5.367"
##                     "6.841"  "46"   "19.42"   "3.885"
##                     "6.831"  "577"  "408.53"  "24.661"
##                     "6.826"  "13"   "2.28"    "1.57"
##                     "6.815"  "39"   "14.45"   "3.602"
##                     "6.811"  "149"  "87.87"   "8.975"
##                     "6.794"  "28"   "9.42"    "2.735"
##                     "6.785"  "36"   "13.86"   "3.263"
##                     "6.773"  "23"   "5.89"    "2.526"
##                     "6.764"  "916"  "733.76"  "26.943"
##                     "6.76"   "28"   "9.59"    "2.723"
##                     "6.75"   "29"   "7.94"    "3.12"
##                     "6.747"  "95"   "50.33"   "6.621"
##                     "6.74"   "50"   "20.8"    "4.332"
##                     "6.722"  "95"   "47.85"   "7.014"
##                     "6.7"    "8"    "1.3"     "0.99"
##                     "6.691"  "14"   "3.13"    "1.625"
##                     "6.665"  "197"  "123.92"  "10.965"
##                     "6.664"  "21"   "5.94"    "2.26"
##                     "6.653"  "24"   "6.98"    "2.558"
##                     "6.636"  "45"   "18.07"   "4.058"
##                     "6.619"  "37"   "12.57"   "3.691"
##                     "6.617"  "52"   "22.86"   "4.404"
##                     "6.616"  "20"   "5.58"    "2.18"
##                     "6.591"  "23"   "5.97"    "2.584"
##                     "6.562"  "48"   "21"      "4.115"
##                     "6.558"  "42"   "15.69"   "4.012"
##                     "6.55"   "7"    "0.45"    "0.657"
##                     "6.549"  "32"   "11.23"   "3.171"
##                     "6.542"  "65"   "32.14"   "5.023"
##                     "6.541"  "130"  "74.7"    "8.455"
##                     "6.531"  "39"   "15.66"   "3.574"
##                     "6.525"  "25"   "7.33"    "2.708"
##                     "6.51"   "44"   "18.14"   "3.972"
##                     "6.507"  "8"    "1.18"    "1.048"
##                     "6.5"    "13"   "2.39"    "1.632"
##                     "6.49"   "8"    "1.51"    "0.98"
##                     "6.489"  "28"   "9.18"    "2.9"
##                     "6.487"  "39"   "15.56"   "3.613"
##                     "6.468"  "229"  "151.4"   "11.997"
```

```
##                   "6.464"   "63"    "28.04"    "5.408"
##                   "6.458"   "29"    "9.77"     "2.978"
##                   "6.437"   "43"    "17.52"    "3.958"
##                   "6.426"   "49"    "21.8"     "4.233"
##                   "6.413"   "26"    "9.32"     "2.601"
##                   "6.413"   "21"    "5.92"     "2.351"
##                   "6.408"   "289"   "201.52"   "13.653"
##                   "6.391"   "91"    "48.69"    "6.621"
##                   "6.351"   "603"   "463.73"   "21.927"
##                   "6.35"    "53"    "23.93"    "4.578"
##                   "6.35"    "53"    "23.93"    "4.578"
##                   "6.35"    "53"    "23.93"    "4.578"
##                   "6.35"    "292"   "208.2"    "13.198"
##                   "6.344"   "43"    "17.77"    "3.977"
##                   "6.34"    "65"    "31.87"    "5.226"
##                   "6.3"     "7"     "0.7"      "0.882"
##                   "6.284"   "35"    "12.5"     "3.58"
##                   "6.27"    "137"   "83.13"    "8.591"
##                   "6.268"   "33"    "12.5"     "3.271"
##                   "6.264"   "9"     "1.61"     "1.18"
##                   "6.263"   "27"    "9.5"      "2.794"
##                   "6.228"   "51"    "22.59"    "4.562"
##                   "6.209"   "23"    "7.3"      "2.529"
##                   "6.193"   "49"    "21.1"     "4.505"
##                   "6.15"    "14"    "2.92"     "1.802"
##                   "6.127"   "19"    "5.76"     "2.161"
##                   "6.126"   "13"    "2.38"     "1.734"
##                   "6.126"   "13"    "2.38"     "1.734"
##                   "6.093"   "47"    "20.3"     "4.382"
##                   "6.083"   "19"    "5.82"     "2.167"
##                   "6.077"   "56"    "28.19"    "4.576"
##                   "6.075"   "28"    "9.63"     "3.024"
##                   "6.074"   "19"    "5.5"      "2.222"
##                   "6.074"   "19"    "5.5"      "2.222"
##                   "6.067"   "19"    "4.93"     "2.319"
##                   "6.056"   "84"    "46.29"    "6.227"
##                   "6.051"   "65"    "32.42"    "5.385"
##                   "6.049"   "64"    "30.58"    "5.525"
##                   "6.027"   "13"    "2.85"     "1.684"
##                   "6.022"   "113"   "64.75"    "8.012"
##                   "6.016"   "183"   "124.65"   "9.7"
##                   "6.013"   "72"    "36.72"    "5.867"
##                   "6.013"   "26"    "9.05"     "2.819"
##                   "6"       "227"   "151.34"   "12.609"
##                   "5.996"   "72"    "34.24"    "6.298"
##                   "5.975"   "289"   "203.36"   "14.333"
##                   "5.945"   "24"    "7.59"     "2.76"
##                   "5.944"   "27"    "11.05"    "2.683"
##                   "5.944"   "27"    "11.05"    "2.683"
##                   "5.944"   "27"    "11.05"    "2.683"
##                   "5.875"   "7"     "0.98"     "1.025"
##                   "5.874"   "58"    "27.64"    "5.169"
##                   "5.868"   "46"    "20.73"    "4.306"
##                   "5.857"   "18"    "5.38"     "2.155"
```

```
##                    "5.854"   "66"    "34.18"    "5.435"
##                    "5.843"   "27"    "8.96"     "3.088"
##                    "5.843"   "27"    "8.96"     "3.088"
##                    "5.832"   "98"    "53.28"    "7.667"
##                    "5.823"   "25"    "9.37"     "2.684"
##                    "5.823"   "10"    "2.11"     "1.355"
##                    "5.811"   "36"    "15.27"    "3.567"
##                    "5.81"    "6"     "0.19"     "0.419"
##                    "5.801"   "27"    "10.19"    "2.898"
##                    "5.801"   "27"    "10.19"    "2.898"
##                    "5.801"   "27"    "10.19"    "2.898"
##                    "5.801"   "27"    "10.19"    "2.898"
##                    "5.798"   "373"   "291.49"   "14.059"
##                    "5.796"   "100"   "59.94"    "6.912"
##                    "5.773"   "95"    "55.2"     "6.895"
##                    "5.765"   "18"    "5.41"     "2.184"
##                    "5.765"   "18"    "5.41"     "2.184"
##                    "5.754"   "14"    "3.51"     "1.823"
##                    "5.741"   "27"    "9.57"     "3.036"
##                    "5.733"   "53"    "25.21"    "4.848"
##                    "5.716"   "75"    "41.68"    "5.829"
##                    "5.715"   "14"    "3.65"     "1.811"
##                    "5.7"     "183"   "124.84"   "10.204"
##                    "5.674"   "53"    "22.53"    "5.37"
##                    "5.662"   "63"    "31.83"    "5.505"
##                    "5.658"   "36"    "15.35"    "3.65"
##                    "5.651"   "49"    "23.77"    "4.465"
##                    "5.646"   "69"    "36.96"    "5.675"
##                    "5.637"   "28"    "9.33"     "3.312"
##                    "5.631"   "36"    "16.19"    "3.518"
##                    "5.625"   "69"    "38.37"    "5.445"
##                    "5.624"   "22"    "6.51"     "2.754"
##                    "5.607"   "71"    "38.64"    "5.771"
##                    "5.591"   "83"    "44.52"    "6.882"
##                    "5.58"    "6"     "0.42"     "0.699"
##                    "5.58"    "6"     "0.42"     "0.699"
##                    "5.58"    "6"     "0.42"     "0.699"
##                    "5.565"   "76"    "45.15"    "5.544"
##                    "5.554"   "131"   "86.83"    "7.953"
##                    "5.549"   "37"    "14.96"    "3.972"
##                    "5.545"   "27"    "10.88"    "2.907"
##                    "5.518"   "30"    "12.2"     "3.226"
##                    "5.514"   "54"    "28.17"    "4.684"
##                    "5.505"   "17"    "5.15"     "2.153"
##                    "5.495"   "13"    "2.93"     "1.833"
##                    "5.494"   "36"    "16.21"    "3.602"
##                    "5.488"   "29"    "11.28"    "3.229"
##                    "5.477"   "8"     "1.69"     "1.152"
##                    "5.474"   "29"    "11.94"    "3.117"
##                    "5.448"   "133"   "85.15"    "8.783"
##                    "5.443"   "63"    "36.75"    "4.823"
##                    "5.426"   "15"    "3.71"     "2.081"
##                    "5.416"   "45"    "20.64"    "4.498"
##                    "5.414"   "31"    "13.43"    "3.245"
```

```
##                      "5.41"   "108"   "65.96"   "7.771"
##                      "5.406"  "27"    "11.7"    "2.83"
##                      "5.403"  "56"    "26.54"   "5.452"
##                      "5.4"    "94"    "56.24"   "6.992"
##                      "5.395"  "25"    "9.66"    "2.843"
##                      "5.387"  "89"    "52.28"   "6.817"
##                      "5.386"  "37"    "17.03"   "3.708"
##                      "5.384"  "24"    "8.04"    "2.964"
##                      "5.382"  "58"    "30.4"    "5.129"
##                      "5.373"  "100"   "60.81"   "7.294"
##                      "5.365"  "37"    "16.19"   "3.879"
##                      "5.358"  "26"    "9.09"    "3.156"
##                      "5.358"  "26"    "9.09"    "3.156"
##                      "5.348"  "15"    "4.33"    "1.995"
##                      "5.346"  "27"    "11.94"   "2.817"
##                      "5.339"  "28"    "11.47"   "3.096"
##                      "5.339"  "28"    "11.47"   "3.096"
##                      "5.331"  "26"    "9.11"    "3.168"
##                      "5.325"  "26"    "9.1"     "3.173"
##                      "5.324"  "27"    "11.01"   "3.003"
##                      "5.322"  "63"    "32.12"   "5.802"
##                      "5.291"  "14"    "4.28"    "1.837"
##                      "5.277"  "12"    "3"       "1.706"
##                      "5.271"  "27"    "9.44"    "3.331"
##                      "5.26"   "44"    "21.01"   "4.37"
##                      "5.246"  "40"    "18.79"   "4.043"
##                      "5.242"  "25"    "9.81"    "2.898"
##                      "5.235"  "168"   "115.82"  "9.968"
##                      "5.228"  "36"    "15.61"   "3.9"
##                      "5.223"  "27"    "11.41"   "2.985"
##                      "5.218"  "14"    "3.83"    "1.949"
##                      "5.218"  "14"    "3.83"    "1.949"
##                      "5.213"  "16"    "4.94"    "2.122"
##                      "5.211"  "141"   "90.67"   "9.658"
##                      "5.206"  "27"    "11.27"   "3.021"
##                      "5.199"  "28"    "11.7"    "3.135"
##                      "5.19"   "6"     "0.81"    "0.873"
##                      "5.177"  "38"    "18.22"   "3.821"
##                      "5.172"  "86"    "50.12"   "6.937"
##                      "5.17"   "67"    "36.88"   "5.826"
##                      "5.163"  "24"    "10.61"   "2.593"
##                      "5.153"  "9"     "2.63"    "1.236"
##                      "5.143"  "31"    "13.41"   "3.42"
##                      "5.138"  "37"    "18.41"   "3.618"
##                      "5.135"  "105"   "62.58"   "8.261"
##                      "5.122"  "32"    "13.2"    "3.671"
##                      "5.122"  "16"    "4.93"    "2.161"
##                      "5.12"   "20"    "7.12"    "2.516"
##                      "5.117"  "76"    "44.24"   "6.207"
##                      "5.113"  "21"    "8.86"    "2.374"
##                      "5.096"  "11"    "2.94"    "1.582"
##                      "5.078"  "24"    "9.52"    "2.851"
##                      "5.066"  "28"    "11.75"   "3.208"
##                      "5.064"  "69"    "38.08"   "6.106"
```

```
##                   "5.041"   "40"    "19.61"    "4.045"
##                   "5.031"   "30"    "13.2"     "3.339"
##                   "5.011"   "14"    "4.3"      "1.936"
##                   "5.001"   "45"    "22.37"    "4.525"
##                   "4.991"   "66"    "38.62"    "5.486"
##                   "4.991"   "17"    "6.35"     "2.134"
##                   "4.99"    "16"    "5.27"     "2.15"
##                   "4.99"    "16"    "5.27"     "2.15"
##                   "4.99"    "16"    "5.27"     "2.15"
##                   "4.976"   "13"    "3.88"     "1.833"
##                   "4.974"   "17"    "5.7"      "2.272"
##                   "4.967"   "27"    "11.95"    "3.03"
##                   "4.964"   "23"    "8.36"     "2.949"
##                   "4.963"   "116"   "75.77"    "8.106"
##                   "4.961"   "648"   "514.84"   "26.842"
##                   "4.961"   "196"   "135.02"   "12.292"
##                   "4.957"   "15"    "4.11"     "2.197"
##                   "4.957"   "15"    "4.11"     "2.197"
##                   "4.953"   "12"    "2.96"     "1.825"
##                   "4.947"   "58"    "30.7"     "5.519"
##                   "4.941"   "38"    "17.75"    "4.098"
##                   "4.91"    "192"   "134.96"   "11.617"
##                   "4.886"   "49"    "24.99"    "4.914"
##                   "4.876"   "20"    "7.19"     "2.627"
##                   "4.86"    "31"    "15.04"    "3.284"
##                   "4.86"    "31"    "15.04"    "3.284"
##                   "4.855"   "110"   "72.19"    "7.787"
##                   "4.847"   "29"    "13.74"    "3.148"
##                   "4.833"   "15"    "4.42"     "2.189"
##                   "4.826"   "41"    "20.84"    "4.177"
##                   "4.819"   "28"    "13.64"    "2.98"
##                   "4.816"   "37"    "18.34"    "3.875"
##                   "4.815"   "48"    "24.99"    "4.779"
##                   "4.801"   "60"    "33.47"    "5.526"
##                   "4.797"   "20"    "8.17"     "2.466"
##                   "4.772"   "61"    "34.12"    "5.632"
##                   "4.77"    "5"     "0.23"     "0.468"
##                   "4.756"   "21"    "9.46"     "2.426"
##                   "4.747"   "28"    "12.37"    "3.293"
##                   "4.738"   "91"    "59.12"    "6.729"
##                   "4.728"   "17"    "5.71"     "2.388"
##                   "4.715"   "44"    "22.04"    "4.658"
##                   "4.715"   "21"    "8.11"     "2.734"
##                   "4.71"    "25"    "10.72"    "3.032"
##                   "4.708"   "10"    "2.28"     "1.64"
##                   "4.683"   "15"    "4.7"      "2.2"
##                   "4.681"   "13"    "3.56"     "2.017"
##                   "4.666"   "31"    "13.77"    "3.692"
##                   "4.665"   "169"   "120.16"   "10.47"
##                   "4.665"   "8"     "1.56"     "1.38"
##                   "4.665"   "8"     "1.56"     "1.38"
##                   "4.664"   "65"    "38.61"    "5.658"
##                   "4.66"    "23"    "9.08"     "2.987"
##                   "4.657"   "55"    "29.43"    "5.491"
```

```
##                      "4.642"  "129"  "85.64"  "9.34"
##                      "4.64"   "16"   "5.52"   "2.258"
##                      "4.64"   "30"   "14.09"  "3.429"
##                      "4.629"  "68"   "40.71"  "5.895"
##                      "4.628"  "32"   "15.32"  "3.604"
##                      "4.628"  "16"   "5.77"   "2.21"
##                      "4.628"  "16"   "5.77"   "2.21"
##                      "4.628"  "16"   "5.77"   "2.21"
##                      "4.628"  "16"   "5.77"   "2.21"
##                      "4.622"  "39"   "20.62"  "3.977"
##                      "4.621"  "35"   "17.74"  "3.735"
##                      "4.617"  "85"   "56.45"  "6.183"
##                      "4.616"  "28"   "12.65"  "3.325"
##                      "4.615"  "28"   "12.54"  "3.35"
##                      "4.588"  "29"   "12.93"  "3.503"
##                      "4.576"  "103"  "66.09"  "8.066"
##                      "4.571"  "19"   "7.31"   "2.557"
##                      "4.569"  "23"   "8.56"   "3.16"
##                      "4.559"  "71"   "42.8"   "6.186"
##                      "4.556"  "26"   "11.59"  "3.163"
##                      "4.55"   "76"   "45.89"  "6.618"
##                      "4.546"  "26"   "10.46"  "3.418"
##                      "4.546"  "8"    "1.93"   "1.335"
##                      "4.545"  "38"   "18.11"  "4.376"
##                      "4.543"  "27"   "10.52"  "3.628"
##                      "4.542"  "27"   "11.57"  "3.397"
##                      "4.534"  "13"   "3.99"   "1.987"
##                      "4.53"   "5"    "0.47"   "0.643"
##                      "4.519"  "99"   "68.49"  "6.752"
##                      "4.512"  "28"   "13.13"  "3.296"
##                      "4.507"  "18"   "6.83"   "2.478"
##                      "4.507"  "18"   "6.83"   "2.478"
##                      "4.507"  "18"   "6.83"   "2.478"
##                      "4.503"  "39"   "20.33"  "4.146"
##                      "4.501"  "21"   "8.79"   "2.713"
##                      "4.501"  "15"   "4.81"   "2.264"
##                      "4.491"  "15"   "4.73"   "2.287"
##                      "4.484"  "18"   "6.67"   "2.527"
##                      "4.472"  "27"   "12.23"  "3.302"
##                      "4.467"  "58"   "33.27"  "5.536"
##                      "4.466"  "14"   "4.51"   "2.125"
##                      "4.466"  "14"   "4.51"   "2.125"
##                      "4.459"  "25"   "9.55"   "3.465"
##                      "4.451"  "19"   "7.32"   "2.624"
##                      "4.437"  "121"  "79.27"  "9.405"
##                      "4.428"  "38"   "19.06"  "4.278"
##                      "4.42"   "8"    "1.92"   "1.376"
##                      "4.418"  "20"   "8.45"   "2.615"
##                      "4.408"  "31"   "16.05"  "3.392"
##                      "4.396"  "55"   "31.71"  "5.298"
##                      "4.39"   "8"    "2.19"   "1.323"
##                      "4.386"  "20"   "6.94"   "2.977"
##                      "4.379"  "24"   "10.3"   "3.129"
##                      "4.379"  "31"   "15.83"  "3.464"
```

```
##                    "4.378"  "14"   "4.84"    "2.092"
##                    "4.372"  "17"   "6.3"     "2.447"
##                    "4.371"  "21"   "8.89"    "2.77"
##                    "4.369"  "26"   "11.12"   "3.406"
##                    "4.338"  "52"   "28.81"   "5.346"
##                    "4.335"  "23"   "9.75"    "3.056"
##                    "4.334"  "17"   "6.6"     "2.399"
##                    "4.332"  "90"   "59.94"   "6.94"
##                    "4.329"  "20"   "6.64"    "3.086"
##                    "4.29"   "179"  "130.22"  "11.37"
##                    "4.29"   "34"   "18.08"   "3.711"
##                    "4.28"   "5"    "0.72"    "0.78"
##                    "4.278"  "29"   "13.93"   "3.523"
##                    "4.278"  "29"   "13.93"   "3.523"
##                    "4.273"  "36"   "19.09"   "3.957"
##                    "4.27"   "63"   "38.35"   "5.772"
##                    "4.248"  "144"  "101.21"  "10.074"
##                    "4.243"  "21"   "7.78"    "3.116"
##                    "4.236"  "11"   "3.24"    "1.832"
##                    "4.235"  "29"   "14.29"   "3.474"
##                    "4.229"  "147"  "103.76"  "10.224"
##                    "4.228"  "27"   "11.51"   "3.664"
##                    "4.224"  "37"   "19.81"   "4.069"
##                    "4.219"  "22"   "9.77"    "2.898"
##                    "4.211"  "59"   "35.17"   "5.659"
##                    "4.209"  "234"  "185.37"  "11.553"
##                    "4.202"  "52"   "30.07"   "5.219"
##                    "4.19"   "119"  "85.03"   "8.107"
##                    "4.179"  "29"   "13.99"   "3.592"
##                    "4.176"  "29"   "13.45"   "3.724"
##                    "4.176"  "63"   "38.27"   "5.922"
##                    "4.16"   "57"   "33.01"   "5.767"
##                    "4.153"  "14"   "5.31"    "2.092"
##                    "4.153"  "14"   "5.31"    "2.092"
##                    "4.153"  "14"   "5.31"    "2.092"
##                    "4.145"  "67"   "40.55"   "6.381"
##                    "4.14"   "5"    "0.86"    "0.899"
##                    "4.135"  "66"   "41.04"   "6.037"
##                    "4.13"   "5"    "0.87"    "0.872"
##                    "4.12"   "16"   "5.85"    "2.463"
##                    "4.119"  "60"   "37.6"    "5.438"
##                    "4.116"  "19"   "7.97"    "2.68"
##                    "4.11"   "148"  "105.85"  "10.256"
##                    "4.107"  "114"  "75.7"    "9.326"
##                    "4.106"  "44"   "23.99"   "4.873"
##                    "4.096"  "428"  "356.52"  "17.452"
##                    "4.095"  "24"   "11.63"   "3.021"
##                    "4.076"  "12"   "3.9"     "1.987"
##                    "4.076"  "63"   "38.87"   "5.92"
##                    "4.073"  "64"   "40.16"   "5.853"
##                    "4.07"   "87"   "58.21"   "7.074"
##                    "4.066"  "13"   "5.07"    "1.95"
##                    "4.06"   "33"   "16.48"   "4.069"
##                    "4.058"  "23"   "10.49"   "3.083"
```

```
##                      "4.055"   "72"    "43.94"    "6.919"
##                      "4.053"   "9"     "2.78"     "1.535"
##                      "4.048"   "29"    "14.39"    "3.609"
##                      "4.043"   "12"    "3.92"     "1.998"
##                      "4.04"    "79"    "53.67"    "6.27"
##                      "4.037"   "67"    "43.85"    "5.734"
##                      "4.031"   "19"    "8.74"     "2.545"
##                      "4.03"    "316"   "258.8"    "14.193"
##                      "4.025"   "296"   "232.8"    "15.702"
##                      "4.022"   "10"    "3.52"     "1.611"
##                      "4.015"   "23"    "9.73"     "3.306"
##                      "4.009"   "393"   "318.17"   "18.664"
##                      "4.003"   "286"   "226.72"   "14.809"
##                      "3.998"   "32"    "16.95"    "3.764"
##                      "3.995"   "42"    "24.19"    "4.458"
##                      "3.992"   "73"    "43.36"    "7.426"
##                      "3.991"   "81"    "50.78"    "7.571"
##                      "3.99"    "24"    "11.34"    "3.173"
##                      "3.986"   "130"   "94.32"    "8.952"
##                      "3.986"   "33"    "16.74"    "4.079"
##                      "3.974"   "65"    "42.75"    "5.598"
##                      "3.968"   "72"    "45.41"    "6.702"
##                      "3.962"   "23"    "10.17"    "3.238"
##                      "3.961"   "81"    "50.71"    "7.647"
##                      "3.96"    "36"    "19.57"    "4.149"
##                      "3.957"   "15"    "6.11"     "2.247"
##                      "3.949"   "17"    "7.92"     "2.299"
##                      "3.949"   "17"    "7.04"     "2.522"
##                      "3.948"   "33"    "17.06"    "4.037"
##                      "3.948"   "33"    "17.06"    "4.037"
##                      "3.936"   "12"    "4.69"     "1.857"
##                      "3.927"   "34"    "18.33"    "3.99"
##                      "3.926"   "88"    "58.87"    "7.42"
##                      "3.925"   "41"    "23.18"    "4.54"
##                      "3.925"   "12"    "4.1"      "2.013"
##                      "3.912"   "23"    "10.14"    "3.288"
##                      "3.895"   "16"    "6.37"     "2.473"
##                      "3.891"   "16"    "6.19"     "2.521"
##                      "3.89"    "35"    "18.62"    "4.211"
##                      "3.877"   "35"    "19.12"    "4.096"
##                      "3.877"   "35"    "19.12"    "4.096"
##                      "3.876"   "16"    "6.27"     "2.51"
##                      "3.873"   "23"    "10.68"    "3.181"
##                      "3.87"    "84"    "57.87"    "6.752"
##                      "3.864"   "23"    "10.11"    "3.336"
##                      "3.857"   "45"    "26.47"    "4.804"
##                      "3.855"   "203"   "153.03"   "12.963"
##                      "3.85"    "28"    "13.01"    "3.894"
##                      "3.844"   "135"   "96.25"    "10.08"
##                      "3.839"   "22"    "9.96"     "3.136"
##                      "3.834"   "17"    "6.76"     "2.671"
##                      "3.833"   "11"    "3.84"     "1.868"
##                      "3.833"   "81"    "54.41"    "6.937"
##                      "3.828"   "57"    "35.74"    "5.553"
```

```
##                    "3.826"  "21"   "9.47"    "3.013"
##                    "3.826"  "23"   "10.51"   "3.264"
##                    "3.817"  "82"   "56.31"   "6.731"
##                    "3.814"  "20"   "9.73"    "2.693"
##                    "3.809"  "31"   "17.86"   "3.45"
##                    "3.809"  "10"   "2.85"    "1.877"
##                    "3.806"  "13"   "4.88"    "2.133"
##                    "3.804"  "45"   "25.74"   "5.062"
##                    "3.8"    "5"    "1.2"     "0.974"
##                    "3.799"  "27"   "14.26"   "3.353"
##                    "3.798"  "46"   "26.82"   "5.05"
##                    "3.796"  "32"   "16.31"   "4.133"
##                    "3.792"  "72"   "49.97"   "5.809"
##                    "3.792"  "113"  "82.22"   "8.116"
##                    "3.79"   "26"   "13.8"    "3.219"
##                    "3.781"  "8"    "2.1"     "1.56"
##                    "3.781"  "8"    "2.1"     "1.56"
##                    "3.781"  "10"   "3.38"    "1.751"
##                    "3.773"  "9"    "2.87"    "1.625"
##                    "3.768"  "14"   "5.58"    "2.235"
##                    "3.767"  "70"   "45.14"   "6.6"
##                    "3.753"  "118"  "83.43"   "9.212"
##                    "3.748"  "11"   "3.91"    "1.891"
##                    "3.74"   "103"  "76.97"   "6.959"
##                    "3.736"  "21"   "9.29"    "3.134"
##                    "3.735"  "9"    "2.83"    "1.652"
##                    "3.729"  "35"   "19.04"   "4.28"
##                    "3.721"  "31"   "17.13"   "3.727"
##                    "3.72"   "62"   "38.47"   "6.325"
##                    "3.712"  "10"   "3.02"    "1.88"
##                    "3.709"  "41"   "23.61"   "4.688"
##                    "3.708"  "31"   "16.8"    "3.83"
##                    "3.706"  "38"   "20.38"   "4.754"
##                    "3.7"    "164"  "128.04"  "9.718"
##                    "3.689"  "93"   "65.58"   "7.432"
##                    "3.688"  "34"   "18.11"   "4.309"
##                    "3.687"  "13"   "4.92"    "2.191"
##                    "3.681"  "14"   "5.43"    "2.328"
##                    "3.668"  "29"   "14.95"   "3.831"
##                    "3.661"  "26"   "13.16"   "3.507"
##                    "3.656"  "53"   "33.83"   "5.244"
##                    "3.653"  "29"   "16.45"   "3.436"
##                    "3.652"  "71"   "46.71"   "6.65"
##                    "3.652"  "28"   "15.92"   "3.308"
##                    "3.652"  "13"   "4.38"    "2.36"
##                    "3.65"   "25"   "11.94"   "3.578"
##                    "3.644"  "703"  "626.11"  "21.099"
##                    "3.636"  "34"   "19.01"   "4.123"
##                    "3.632"  "21"   "10.18"   "2.979"
##                    "3.631"  "45"   "25.52"   "5.364"
##                    "3.629"  "22"   "11.74"   "2.827"
##                    "3.629"  "149"  "110.3"   "10.665"
##                    "3.628"  "44"   "24.59"   "5.351"
##                    "3.628"  "28"   "14.5"    "3.721"
```

```
##                      "3.621"  "47"   "28.25"   "5.178"
##                      "3.616"  "55"   "34.43"   "5.689"
##                      "3.607"  "12"   "4.08"    "2.196"
##                      "3.604"  "55"   "34.63"   "5.653"
##                      "3.598"  "32"   "17.11"   "4.139"
##                      "3.584"  "14"   "6.11"    "2.201"
##                      "3.572"  "89"   "63.27"   "7.202"
##                      "3.571"  "56"   "35.53"   "5.732"
##                      "3.571"  "62"   "39.82"   "6.211"
##                      "3.569"  "22"   "10.34"   "3.267"
##                      "3.559"  "5"    "1.3"     "1.04"
##                      "3.559"  "40"   "22.81"   "4.83"
##                      "3.557"  "65"   "44.35"   "5.806"
##                      "3.555"  "49"   "31.88"   "4.816"
##                      "3.553"  "25"   "12.1"    "3.631"
##                      "3.54"   "4"    "0.46"    "0.688"
##                      "3.536"  "23"   "10.92"   "3.416"
##                      "3.53"   "41"   "24.63"   "4.638"
##                      "3.527"  "9"    "2.8"     "1.758"
##                      "3.523"  "70"   "47.67"   "6.339"
##                      "3.519"  "19"   "8.96"    "2.853"
##                      "3.515"  "35"   "20.71"   "4.066"
##                      "3.508"  "21"   "10.21"   "3.076"
##                      "3.508"  "65"   "43.56"   "6.112"
##                      "3.503"  "28"   "14.46"   "3.865"
##                      "3.498"  "33"   "18.37"   "4.182"
##                      "3.492"  "31"   "17.53"   "3.857"
##                      "3.492"  "57"   "37.72"   "5.521"
##                      "3.483"  "87"   "60.98"   "7.47"
##                      "3.481"  "9"    "3.35"    "1.623"
##                      "3.481"  "9"    "3.35"    "1.623"
##                      "3.477"  "91"   "67.39"   "6.791"
##                      "3.471"  "172"  "131.16"  "11.765"
##                      "3.468"  "57"   "37.75"   "5.551"
##                      "3.468"  "57"   "38.13"   "5.441"
##                      "3.464"  "18"   "8.38"    "2.777"
##                      "3.461"  "40"   "23.63"   "4.73"
##                      "3.45"   "4"    "0.55"    "0.702"
##                      "3.449"  "15"   "6.85"    "2.363"
##                      "3.449"  "134"  "100.72"  "9.649"
##                      "3.446"  "14"   "6.06"    "2.304"
##                      "3.445"  "15"   "6.43"    "2.487"
##                      "3.439"  "15"   "6.25"    "2.544"
##                      "3.421"  "35"   "19"      "4.677"
##                      "3.421"  "35"   "19"      "4.677"
##                      "3.419"  "14"   "5.18"    "2.58"
##                      "3.417"  "58"   "37.53"   "5.991"
##                      "3.414"  "12"   "4.46"    "2.208"
##                      "3.414"  "14"   "5.84"    "2.39"
##                      "3.411"  "10"   "3.71"    "1.844"
##                      "3.403"  "22"   "11.29"   "3.147"
##                      "3.399"  "23"   "12.12"   "3.201"
##                      "3.393"  "35"   "20.77"   "4.194"
##                      "3.391"  "19"   "9.42"    "2.825"
```

```
##                      "3.388"   "14"    "6.28"     "2.279"
##                      "3.386"   "23"    "12.11"    "3.216"
##                      "3.386"   "39"    "22.52"    "4.867"
##                      "3.386"   "6"     "1.86"     "1.223"
##                      "3.384"   "92"    "63.86"    "8.316"
##                      "3.379"   "87"    "62.75"    "7.177"
##                      "3.364"   "52"    "34.75"    "5.127"
##                      "3.353"   "7"     "2.22"     "1.425"
##                      "3.352"   "8"     "3.25"     "1.417"
##                      "3.352"   "8"     "3.25"     "1.417"
##                      "3.351"   "70"    "48.85"    "6.312"
##                      "3.35"    "409"   "340.86"   "20.341"
##                      "3.348"   "32"    "18.01"    "4.179"
##                      "3.348"   "32"    "18.01"    "4.179"
##                      "3.341"   "64"    "43.42"    "6.16"
##                      "3.33"    "4"     "0.67"     "0.779"
##                      "3.328"   "66"    "46.74"    "5.787"
##                      "3.32"    "16"    "7.39"     "2.593"
##                      "3.307"   "20"    "10.24"    "2.951"
##                      "3.297"   "20"    "9.24"     "3.263"
##                      "3.293"   "28"    "14.77"    "4.017"
##                      "3.29"    "20"    "9.75"     "3.115"
##                      "3.285"   "46"    "30.72"    "4.652"
##                      "3.283"   "45"    "29.68"    "4.666"
##                      "3.278"   "20"    "10.8"     "2.807"
##                      "3.278"   "31"    "17.04"    "4.259"
##                      "3.273"   "46"    "28.65"    "5.302"
##                      "3.273"   "23"    "11.98"    "3.366"
##                      "3.273"   "25"    "13.1"     "3.636"
##                      "3.26"    "69"    "46.07"    "7.034"
##                      "3.258"   "13"    "5.07"     "2.434"
##                      "3.257"   "22"    "11.48"    "3.23"
##                      "3.256"   "4"     "0.74"     "1.001"
##                      "3.249"   "50"    "32.04"    "5.528"
##                      "3.229"   "717"   "638.24"   "24.394"
##                      "3.222"   "15"    "6.91"     "2.511"
##                      "3.217"   "21"    "10.65"    "3.217"
##                      "3.216"   "76"    "55.98"    "6.225"
##                      "3.213"   "65"    "45.47"    "6.079"
##                      "3.209"   "8"     "2.58"     "1.689"
##                      "3.208"   "71"    "51.31"    "6.138"
##                      "3.208"   "71"    "51.31"    "6.138"
##                      "3.208"   "71"    "51.31"    "6.138"
##                      "3.208"   "71"    "51.31"    "6.138"
##                      "3.203"   "79"    "56.27"    "7.097"
##                      "3.203"   "92"    "65.45"    "8.288"
##                      "3.197"   "73"    "53.56"    "6.081"
##                      "3.182"   "110"   "81.79"    "8.865"
##                      "3.18"    "4"     "0.82"     "0.881"
##                      "3.179"   "82"    "59.93"    "6.942"
##                      "3.17"    "31"    "18.18"    "4.044"
##                      "3.169"   "30"    "16.61"    "4.226"
##                      "3.167"   "63"    "42.71"    "6.406"
##                      "3.166"   "14"    "5.68"     "2.628"
```

```
##                    "3.16"   "8"     "2.8"      "1.645"
##                    "3.156"  "11"    "4.63"     "2.018"
##                    "3.156"  "11"    "4.63"     "2.018"
##                    "3.149"  "90"    "67.07"    "7.283"
##                    "3.149"  "37"    "23.46"    "4.3"
##                    "3.149"  "37"    "23.46"    "4.3"
##                    "3.149"  "37"    "23.46"    "4.3"
##                    "3.149"  "37"    "23.46"    "4.3"
##                    "3.147"  "152"   "119.34"   "10.377"
##                    "3.144"  "566"   "492.01"   "23.532"
##                    "3.144"  "14"    "6.97"     "2.236"
##                    "3.142"  "8"     "2.68"     "1.693"
##                    "3.14"   "47"    "31.18"    "5.038"
##                    "3.139"  "129"   "99.62"    "9.36"
##                    "3.139"  "37"    "23.5"     "4.301"
##                    "3.136"  "23"    "12.33"    "3.402"
##                    "3.134"  "10"    "3.86"     "1.959"
##                    "3.13"   "11"    "4.7"      "2.013"
##                    "3.13"   "11"    "4.7"      "2.013"
##                    "3.128"  "302"   "249.77"   "16.696"
##                    "3.117"  "110"   "84.06"    "8.322"
##                    "3.116"  "134"   "102.05"   "10.254"
##                    "3.115"  "69"    "47.12"    "7.024"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.112"  "10"    "3.85"     "1.977"
##                    "3.109"  "8"     "2.82"     "1.666"
##                    "3.106"  "25"    "14.55"    "3.365"
##                    "3.102"  "29"    "16.7"     "3.966"
##                    "3.099"  "57"    "38.04"    "6.118"
##                    "3.098"  "35"    "21.64"    "4.312"
##                    "3.094"  "31"    "18.97"    "3.888"
##                    "3.093"  "9"     "3.5"      "1.778"
##                    "3.086"  "152"   "118.76"   "10.771"
```

```
##                      "3.082"   "344"   "291.5"    "17.033"
##                      "3.08"    "37"    "23.68"    "4.325"
##                      "3.064"   "14"    "6.61"     "2.412"
##                      "3.064"   "60"    "41.52"    "6.031"
##                      "3.06"    "4"     "0.94"     "0.952"
##                      "3.057"   "17"    "8.35"     "2.83"
##                      "3.056"   "54"    "37.54"    "5.387"
##                      "3.055"   "94"    "68.17"    "8.454"
##                      "3.054"   "14"    "6.93"     "2.315"
##                      "3.052"   "236"   "193.22"   "14.017"
##                      "3.05"    "29"    "17.74"    "3.692"
##                      "3.05"    "4"     "0.95"     "0.989"
##                      "3.049"   "35"    "22.22"    "4.191"
##                      "3.047"   "75"    "53.81"    "6.955"
##                      "3.046"   "33"    "20.23"    "4.192"
##                      "3.041"   "87"    "62.52"    "8.051"
##                      "3.036"   "11"    "4.76"     "2.055"
##                      "3.033"   "62"    "41.17"    "6.867"
##                      "3.032"   "11"    "4.26"     "2.223"
##                      "3.032"   "11"    "4.26"     "2.223"
##                      "3.032"   "11"    "4.26"     "2.223"
##                      "3.032"   "11"    "4.26"     "2.223"
##                      "3.032"   "11"    "4.26"     "2.223"
##                      "3.031"   "9"     "3.46"     "1.828"
##                      "3.028"   "8"     "2.99"     "1.654"
##                      "3.023"   "562"   "491.34"   "23.377"
##                      "3.022"   "73"    "54.29"    "6.191"
##                      "3.017"   "13"    "5.48"     "2.492"
##                      "3.016"   "8"     "3.01"     "1.654"
##                      "3.015"   "10"    "3.95"     "2.007"
##                      "3.014"   "12"    "5.54"     "2.143"
##                      "3.013"   "67"    "47.74"    "6.392"
##                      "3.012"   "8"     "2.72"     "1.753"
##                      "3.012"   "8"     "2.72"     "1.753"
##                      "3.011"   "55"    "37.6"     "5.779"
##                      "3.006"   "34"    "20.52"    "4.484"
##                      "3.005"   "18"    "9.22"     "2.922"
##                      "3.001"   "62"    "43.86"    "6.045"
##                      "2.99"    "63"    "44.39"    "6.225"
##                      "2.987"   "11"    "4.78"     "2.082"
##                      "2.985"   "147"   "112.41"   "11.59"
##                      "2.981"   "21"    "11.85"    "3.069"
##                      "2.969"   "65"    "44.8"     "6.805"
##                      "2.967"   "82"    "63.87"    "6.111"
##                      "2.966"   "50"    "34.82"    "5.118"
##                      "2.963"   "110"   "86.16"    "8.046"
##                      "2.962"   "8"     "3.1"      "1.655"
##                      "2.962"   "13"    "6.57"     "2.171"
##                      "2.955"   "114"   "89.96"    "8.136"
##                      "2.954"   "60"    "41.7"     "6.195"
##                      "2.946"   "11"    "4.43"     "2.23"
##                      "2.944"   "60"    "42.31"    "6.01"
##                      "2.94"    "4"     "1.06"     "0.962"
##                      "2.929"   "28"    "16.55"    "3.909"
```

```
##                      "2.928"  "31"   "18.49"   "4.272"
##                      "2.927"  "41"   "26.8"    "4.851"
##                      "2.919"  "23"   "12.67"   "3.539"
##                      "2.918"  "90"   "66.11"   "8.186"
##                      "2.907"  "13"   "5.85"    "2.459"
##                      "2.907"  "37"   "24.45"   "4.317"
##                      "2.901"  "18"   "8.97"    "3.112"
##                      "2.894"  "108"  "79.73"   "9.77"
##                      "2.892"  "60"   "42.81"   "5.944"
##                      "2.886"  "179"  "149.19"  "10.33"
##                      "2.886"  "23"   "12.58"   "3.61"
##                      "2.883"  "8"    "2.77"    "1.814"
##                      "2.88"   "4"    "1.12"    "0.935"
##                      "2.875"  "81"   "62.07"   "6.585"
##                      "2.872"  "51"   "35.48"   "5.404"
##                      "2.869"  "32"   "19.06"   "4.51"
##                      "2.867"  "114"  "87.41"   "9.275"
##                      "2.865"  "320"  "278.88"  "14.352"
##                      "2.865"  "116"  "88.86"   "9.472"
##                      "2.865"  "27"   "15.63"   "3.969"
##                      "2.863"  "10"   "3.67"    "2.211"
##                      "2.854"  "192"  "153.92"  "13.341"
##                      "2.848"  "18"   "9.9"     "2.844"
##                      "2.842"  "13"   "6.48"    "2.294"
##                      "2.842"  "422"  "369.35"  "18.529"
##                      "2.84"   "39"   "25.73"   "4.673"
##                      "2.835"  "11"   "4.99"    "2.12"
##                      "2.835"  "11"   "4.99"    "2.12"
##                      "2.826"  "36"   "23.25"   "4.511"
##                      "2.823"  "225"  "188.77"  "12.835"
##                      "2.821"  "92"   "70.51"   "7.618"
##                      "2.819"  "20"   "11.39"   "3.055"
##                      "2.81"   "15"   "7.42"    "2.697"
##                      "2.808"  "118"  "92.33"   "9.141"
##                      "2.805"  "168"  "133.96"  "12.135"
##                      "2.804"  "36"   "22.74"   "4.728"
##                      "2.802"  "12"   "5.55"    "2.302"
##                      "2.8"    "132"  "105.7"   "9.394"
##                      "2.8"    "4"    "1.2"     "0.91"
##                      "2.795"  "12"   "5.15"    "2.451"
##                      "2.79"   "10"   "4.29"    "2.046"
##                      "2.788"  "12"   "6.01"    "2.149"
##                      "2.787"  "10"   "4.41"    "2.006"
##                      "2.78"   "4"    "1.22"    "0.917"
##                      "2.778"  "194"  "161.17"  "11.819"
##                      "2.772"  "28"   "17.42"   "3.817"
##                      "2.77"   "3"    "0.23"    "0.489"
##                      "2.767"  "10"   "4.35"    "2.042"
##                      "2.765"  "22"   "12.29"   "3.511"
##                      "2.764"  "5"    "1.4"     "1.303"
##                      "2.764"  "92"   "71.07"   "7.572"
##                      "2.761"  "24"   "14.29"   "3.517"
##                      "2.759"  "61"   "43.76"   "6.249"
##                      "2.754"  "120"  "95.35"   "8.951"
```

```
##                   "2.753"  "62"   "44.34"   "6.415"
##                   "2.753"  "77"   "56.34"   "7.505"
##                   "2.75"   "3"    "0.25"    "0.5"
##                   "2.75"   "55"   "38.34"   "6.057"
##                   "2.744"  "23"   "13.59"   "3.429"
##                   "2.742"  "19"   "10.5"    "3.099"
##                   "2.741"  "10"   "4.47"    "2.017"
##                   "2.739"  "17"   "8.85"    "2.976"
##                   "2.738"  "67"   "46.69"   "7.418"
##                   "2.738"  "11"   "5.07"    "2.166"
##                   "2.733"  "7"    "3.02"    "1.456"
##                   "2.731"  "8"    "3.07"    "1.805"
##                   "2.721"  "9"    "3.85"    "1.893"
##                   "2.721"  "11"   "4.86"    "2.256"
##                   "2.72"   "4"    "1.28"    "0.911"
##                   "2.72"   "4"    "1.28"    "0.911"
##                   "2.72"   "4"    "1.28"    "0.911"
##                   "2.719"  "20"   "10.66"   "3.435"
##                   "2.708"  "22"   "12.97"   "3.335"
##                   "2.708"  "84"   "65"      "7.015"
##                   "2.704"  "39"   "26.56"   "4.6"
##                   "2.702"  "128"  "103.21"  "9.174"
##                   "2.702"  "6"    "2.29"    "1.373"
##                   "2.702"  "6"    "2.29"    "1.373"
##                   "2.7"    "4"    "1.3"     "0.937"
##                   "2.7"    "39"   "24.67"   "5.307"
##                   "2.7"    "3"    "0.3"     "0.482"
##                   "2.694"  "6"    "2.39"    "1.34"
##                   "2.688"  "241"  "205.87"  "13.068"
##                   "2.688"  "42"   "28.96"   "4.851"
##                   "2.682"  "21"   "11.61"   "3.502"
##                   "2.677"  "49"   "34.43"   "5.443"
##                   "2.67"   "24"   "13.88"   "3.791"
##                   "2.662"  "58"   "42.1"    "5.972"
##                   "2.662"  "5"    "1.65"    "1.258"
##                   "2.658"  "33"   "21.27"   "4.413"
##                   "2.658"  "6"    "2.09"    "1.471"
##                   "2.658"  "6"    "2.09"    "1.471"
##                   "2.658"  "6"    "2.09"    "1.471"
##                   "2.658"  "6"    "2.09"    "1.471"
##                   "2.658"  "6"    "2.09"    "1.471"
##                   "2.651"  "13"   "6.23"    "2.554"
##                   "2.651"  "185"  "151.78"  "12.532"
##                   "2.647"  "25"   "14.94"   "3.8"
##                   "2.646"  "27"   "17.28"   "3.674"
##                   "2.644"  "99"   "77.02"   "8.314"
##                   "2.642"  "17"   "8.71"    "3.138"
##                   "2.641"  "36"   "24.32"   "4.422"
##                   "2.639"  "22"   "14.08"   "3.001"
##                   "2.637"  "44"   "29.52"   "5.491"
##                   "2.637"  "44"   "29.52"   "5.491"
##                   "2.633"  "11"   "5.56"    "2.066"
##                   "2.63"   "231"  "197.42"  "12.766"
##                   "2.628"  "11"   "5.57"    "2.066"
```

```
##                     "2.628"  "11"   "5.03"    "2.272"
##                     "2.628"  "118"  "91.69"   "10.013"
##                     "2.626"  "6"    "2.22"    "1.44"
##                     "2.619"  "46"   "32.23"   "5.257"
##                     "2.619"  "84"   "64.84"   "7.315"
##                     "2.618"  "6"    "2.24"    "1.436"
##                     "2.612"  "35"   "24.15"   "4.155"
##                     "2.612"  "31"   "21.46"   "3.653"
##                     "2.608"  "68"   "50.64"   "6.655"
##                     "2.607"  "332"  "289.82"  "16.179"
##                     "2.6"    "8"    "3"       "1.923"
##                     "2.598"  "50"   "35.15"   "5.716"
##                     "2.594"  "7"    "2.97"    "1.553"
##                     "2.59"   "3"    "0.41"    "0.621"
##                     "2.589"  "48"   "35.46"   "4.844"
##                     "2.589"  "33"   "21.36"   "4.496"
##                     "2.576"  "6"    "2.12"    "1.506"
##                     "2.574"  "17"   "8.85"    "3.167"
##                     "2.572"  "34"   "21.82"   "4.736"
##                     "2.572"  "44"   "29.59"   "5.603"
##                     "2.571"  "6"    "2.45"    "1.381"
##                     "2.571"  "6"    "2.45"    "1.381"
##                     "2.57"   "3"    "0.43"    "0.607"
##                     "2.566"  "25"   "15.89"   "3.55"
##                     "2.566"  "102"  "78.46"   "9.172"
##                     "2.561"  "41"   "28.15"   "5.018"
##                     "2.554"  "10"   "4.31"    "2.228"
##                     "2.552"  "4"    "1.35"    "1.038"
##                     "2.55"   "11"   "5.43"    "2.185"
##                     "2.549"  "9"    "3.98"    "1.969"
##                     "2.547"  "8"    "3.65"    "1.708"
##                     "2.547"  "8"    "3.65"    "1.708"
##                     "2.545"  "53"   "36.19"   "6.605"
##                     "2.544"  "7"    "3.05"    "1.553"
##                     "2.544"  "49"   "33.44"   "6.116"
##                     "2.543"  "77"   "58.85"   "7.137"
##                     "2.539"  "110"  "88.23"   "8.574"
##                     "2.53"   "36"   "24.58"   "4.513"
##                     "2.527"  "29"   "20.48"   "3.371"
##                     "2.527"  "6"    "2"       "1.583"
##                     "2.522"  "65"   "47.36"   "6.996"
##                     "2.521"  "6"    "2.43"    "1.416"
##                     "2.516"  "211"  "178.7"   "12.838"
##                     "2.515"  "11"   "5.21"    "2.302"
##                     "2.514"  "78"   "60.29"   "7.044"
##                     "2.514"  "15"   "7.7"     "2.904"
##                     "2.506"  "132"  "105.57"  "10.546"
##                     "2.506"  "57"   "40.84"   "6.447"
##                     "2.504"  "5"    "1.75"    "1.298"
##                     "2.499"  "21"   "12.67"   "3.333"
##                     "2.495"  "8"    "3.71"    "1.719"
##                     "2.485"  "9"    "4.35"    "1.872"
##                     "2.481"  "29"   "19.64"   "3.773"
##                     "2.471"  "8"    "3.8"     "1.7"
```

```
##                    "2.467"  "12"   "6.39"    "2.274"
##                    "2.467"  "12"   "6.39"    "2.274"
##                    "2.467"  "7"    "3.01"    "1.617"
##                    "2.454"  "56"   "41.1"    "6.073"
##                    "2.453"  "12"   "5.51"    "2.646"
##                    "2.452"  "14"   "7.09"    "2.818"
##                    "2.451"  "17"   "10.47"   "2.665"
##                    "2.447"  "129"  "106.22"  "9.308"
##                    "2.446"  "12"   "5.43"    "2.686"
##                    "2.445"  "16"   "8.79"    "2.948"
##                    "2.436"  "7"    "2.83"    "1.712"
##                    "2.433"  "212"  "178.54"  "13.751"
##                    "2.431"  "37"   "25.32"   "4.805"
##                    "2.431"  "55"   "39.8"    "6.252"
##                    "2.43"   "9"    "3.83"    "2.128"
##                    "2.43"   "27"   "16.6"    "4.281"
##                    "2.429"  "39"   "26.55"   "5.125"
##                    "2.428"  "227"  "196.26"  "12.661"
##                    "2.425"  "6"    "2.51"    "1.439"
##                    "2.421"  "7"    "2.8"     "1.735"
##                    "2.417"  "12"   "6.53"    "2.263"
##                    "2.414"  "5"    "1.8"     "1.326"
##                    "2.414"  "16"   "8.71"    "3.019"
##                    "2.413"  "13"   "7.02"    "2.478"
##                    "2.409"  "36"   "23.97"   "4.994"
##                    "2.407"  "5"    "1.82"    "1.321"
##                    "2.4"    "3"    "0.6"     "0.752"
##                    "2.4"    "3"    "0.6"     "0.752"
##                    "2.398"  "77"   "59.78"   "7.182"
##                    "2.397"  "108"  "86.4"    "9.013"
##                    "2.395"  "8"    "3.92"    "1.704"
##                    "2.393"  "8"    "3.47"    "1.893"
##                    "2.391"  "36"   "25.72"   "4.3"
##                    "2.39"   "3"    "0.61"    "0.803"
##                    "2.39"   "3"    "0.61"    "0.815"
##                    "2.39"   "3"    "0.61"    "0.764"
##                    "2.385"  "51"   "38.09"   "5.412"
##                    "2.382"  "12"   "6.06"    "2.494"
##                    "2.382"  "12"   "6.06"    "2.494"
##                    "2.382"  "12"   "6.06"    "2.494"
##                    "2.38"   "55"   "41.46"   "5.69"
##                    "2.379"  "108"  "87.87"   "8.46"
##                    "2.376"  "84"   "66.87"   "7.211"
##                    "2.368"  "21"   "12.62"   "3.538"
##                    "2.366"  "10"   "4.74"    "2.223"
##                    "2.357"  "90"   "71.82"   "7.712"
##                    "2.354"  "57"   "42.62"   "6.11"
##                    "2.353"  "14"   "6.9"     "3.017"
##                    "2.351"  "47"   "33.44"   "5.767"
##                    "2.347"  "103"  "82.98"   "8.529"
##                    "2.345"  "8"    "3.51"    "1.915"
##                    "2.344"  "114"  "93.2"    "8.874"
##                    "2.341"  "28"   "17.97"   "4.284"
##                    "2.336"  "19"   "11.04"   "3.408"
```

```
##                    "2.333"  "21"     "12.9"    "3.471"
##                    "2.328"  "37"     "25.79"   "4.814"
##                    "2.327"  "228"    "194.69"  "14.315"
##                    "2.321"  "40"     "27.04"   "5.583"
##                    "2.32"   "3"      "0.68"    "0.863"
##                    "2.32"   "3"      "0.68"    "0.863"
##                    "2.318"  "39"     "27.42"   "4.995"
##                    "2.313"  "37"     "25.12"   "5.135"
##                    "2.311"  "1358"   "1260.46" "42.209"
##                    "2.311"  "18"     "10.73"   "3.146"
##                    "2.309"  "11"     "5.21"    "2.508"
##                    "2.308"  "23"     "13.81"   "3.982"
##                    "2.307"  "10"     "4.56"    "2.358"
##                    "2.307"  "67"     "50.5"    "7.151"
##                    "2.305"  "179"    "148.43"  "13.263"
##                    "2.303"  "10"     "4.58"    "2.354"
##                    "2.297"  "31"     "21.32"   "4.214"
##                    "2.292"  "60"     "46.04"   "6.09"
##                    "2.285"  "7"      "3.18"    "1.672"
##                    "2.281"  "29"     "19.91"   "3.985"
##                    "2.28"   "12"     "6.03"    "2.619"
##                    "2.28"   "8"      "3.89"    "1.803"
##                    "2.271"  "64"     "47.66"   "7.195"
##                    "2.27"   "36"     "24.95"   "4.869"
##                    "2.269"  "44"     "31.51"   "5.506"
##                    "2.267"  "17"     "9.46"    "3.326"
##                    "2.265"  "49"     "36.52"   "5.509"
##                    "2.263"  "13"     "6.83"    "2.727"
##                    "2.26"   "166"    "139.18"  "11.865"
##                    "2.26"   "27"     "18"      "3.982"
##                    "2.254"  "117"    "97.71"   "8.557"
##                    "2.246"  "28"     "17.89"   "4.501"
##                    "2.245"  "87"     "68.3"    "8.33"
##                    "2.238"  "6"      "2.57"    "1.533"
##                    "2.237"  "37"     "26.78"   "4.57"
##                    "2.236"  "28"     "18.68"   "4.168"
##                    "2.236"  "28"     "18.68"   "4.168"
##                    "2.233"  "7"      "3.36"    "1.63"
##                    "2.23"   "3"      "0.77"    "0.851"
##                    "2.23"   "3"      "0.77"    "0.827"
##                    "2.229"  "4"      "1.56"    "1.095"
##                    "2.223"  "144"    "123.77"  "9.1"
##                    "2.222"  "6"      "2.45"    "1.598"
##                    "2.221"  "6"      "2.6"     "1.531"
##                    "2.221"  "26"     "16.85"   "4.12"
##                    "2.219"  "43"     "30.6"    "5.589"
##                    "2.206"  "8"      "3.79"    "1.908"
##                    "2.204"  "5"      "1.81"    "1.447"
##                    "2.196"  "40"     "28.36"   "5.3"
##                    "2.193"  "34"     "23.78"   "4.659"
##                    "2.191"  "210"    "183.21"  "12.229"
##                    "2.19"   "7"      "3.34"    "1.671"
##                    "2.189"  "41"     "29.17"   "5.405"
##                    "2.187"  "30"     "21.24"   "4.005"
```

```
##                     "2.185"  "29"   "19.93"   "4.152"
##                     "2.185"  "17"   "9.77"    "3.309"
##                     "2.183"  "14"   "8.19"    "2.662"
##                     "2.181"  "45"   "33"      "5.501"
##                     "2.178"  "49"   "36.44"   "5.767"
##                     "2.173"  "50"   "36.97"   "5.997"
##                     "2.173"  "4"    "1.54"    "1.132"
##                     "2.173"  "4"    "1.54"    "1.132"
##                     "2.171"  "17"   "10.41"   "3.035"
##                     "2.171"  "11"   "5.29"    "2.63"
##                     "2.171"  "63"   "48.69"   "6.59"
##                     "2.169"  "36"   "25.67"   "4.763"
##                     "2.169"  "65"   "49.67"   "7.067"
##                     "2.168"  "28"   "18.7"    "4.289"
##                     "2.164"  "136"  "115.18"  "9.622"
##                     "2.164"  "21"   "13.52"   "3.457"
##                     "2.16"   "86"   "67.78"   "8.437"
##                     "2.156"  "5"    "1.99"    "1.396"
##                     "2.15"   "3"    "0.85"    "0.892"
##                     "2.149"  "12"   "6.44"    "2.587"
##                     "2.148"  "12"   "6.45"    "2.583"
##                     "2.147"  "11"   "5.6"     "2.515"
##                     "2.147"  "11"   "5.6"     "2.515"
##                     "2.144"  "33"   "22.52"   "4.888"
##                     "2.143"  "52"   "39.28"   "5.936"
##                     "2.14"   "3"    "0.86"    "0.899"
##                     "2.139"  "18"   "11.39"   "3.091"
##                     "2.139"  "18"   "11.39"   "3.091"
##                     "2.136"  "20"   "12.94"   "3.305"
##                     "2.136"  "20"   "12.94"   "3.305"
##                     "2.136"  "20"   "12.94"   "3.305"
##                     "2.133"  "5"    "2.13"    "1.346"
##                     "2.132"  "37"   "27.18"   "4.606"
##                     "2.131"  "23"   "15.62"   "3.463"
##                     "2.12"   "3"    "0.88"    "0.977"
##                     "2.117"  "11"   "5.87"    "2.423"
##                     "2.116"  "12"   "6.2"     "2.741"
##                     "2.11"   "29"   "19.74"   "4.389"
##                     "2.107"  "39"   "27.93"   "5.254"
##                     "2.107"  "39"   "27.93"   "5.254"
##                     "2.107"  "39"   "27.93"   "5.254"
##                     "2.105"  "12"   "6.15"    "2.779"
##                     "2.103"  "12"   "6.21"    "2.753"
##                     "2.103"  "5"    "2.05"    "1.403"
##                     "2.102"  "10"   "5.41"    "2.184"
##                     "2.1"    "34"   "24.15"   "4.691"
##                     "2.1"    "23"   "15.16"   "3.733"
##                     "2.098"  "8"    "3.89"    "1.959"
##                     "2.098"  "20"   "13.14"   "3.269"
##                     "2.097"  "8"    "3.75"    "2.027"
##                     "2.087"  "103"  "84.82"   "8.711"
##                     "2.086"  "5"    "2.16"    "1.361"
##                     "2.086"  "14"   "8.3"     "2.732"
##                     "2.082"  "54"   "41.76"   "5.879"
```

```
##                      "2.08"    "3"    "0.92"    "0.961"
##                      "2.08"    "3"    "0.92"    "0.961"
##                      "2.08"    "3"    "0.92"    "0.961"
##                      "2.075"   "34"   "23.22"   "5.194"
##                      "2.072"   "20"   "13.24"   "3.263"
##                      "2.07"    "3"    "0.93"    "0.998"
##                      "2.07"    "3"    "0.93"    "0.844"
##                      "2.069"   "67"   "53.78"   "6.389"
##                      "2.068"   "10"   "5.67"    "2.094"
##                      "2.066"   "10"   "4.9"     "2.468"
##                      "2.066"   "25"   "16.17"   "4.274"
##                      "2.065"   "27"   "18.94"   "3.902"
##                      "2.059"   "5"    "1.96"    "1.477"
##                      "2.056"   "5"    "2.31"    "1.308"
##                      "2.056"   "41"   "29.62"   "5.536"
##                      "2.052"   "29"   "20.26"   "4.258"
##                      "2.047"   "12"   "6.64"    "2.619"
##                      "2.046"   "12"   "6.59"    "2.644"
##                      "2.035"   "6"    "2.91"    "1.518"
##                      "2.035"   "13"   "7.76"    "2.575"
##                      "2.034"   "6"    "2.81"    "1.568"
##                      "2.033"   "9"    "4.79"    "2.071"
##                      "2.033"   "7"    "3.49"    "1.726"
##                      "2.03"    "60"   "47.47"   "6.173"
##                      "2.029"   "52"   "40.1"    "5.866"
##                      "2.028"   "7"    "3.19"    "1.879"
##                      "2.028"   "10"   "5.56"    "2.19"
##                      "2.026"   "46"   "34.78"   "5.539"
##                      "2.024"   "5"    "2.04"    "1.463"
##                      "2.018"   "63"   "48.55"   "7.161"
##                      "2.016"   "7"    "3.33"    "1.821"
##                      "2.016"   "30"   "21.28"   "4.325"
##                      "2.016"   "7"    "3.33"    "1.821"
##                      "2.016"   "14"   "7.56"    "3.195"
##                      "2.016"   "7"    "3.33"    "1.821"
##                      "2.016"   "7"    "3.33"    "1.821"
##                      "2.015"   "15"   "9.2"     "2.878"
##                      "2.015"   "19"   "12.21"   "3.37"
##                      "2.012"   "28"   "19.6"    "4.175"
##                      "2.01"    "34"   "24.32"   "4.816"
##                      "2.007"   "59"   "45.44"   "6.757"
##                      "2.004"   "32"   "22.69"   "4.646"
##                      "2.003"   "13"   "7.4"     "2.796"
##                      "2.003"   "10"   "5.63"    "2.182"
##                      "2.001"   "26"   "17.9"    "4.049"
##                      "2.001"   "73"   "59.21"   "6.892"
##                      "1.998"   "41"   "29.72"   "5.644"
##                      "1.993"   "8"    "4.16"    "1.927"
##                      "1.993"   "4"    "1.54"    "1.234"
##                      "1.993"   "4"    "1.54"    "1.234"
##                      "1.993"   "4"    "1.54"    "1.234"
##                      "1.988"   "9"    "4.51"    "2.259"
##                      "1.985"   "14"   "8.12"    "2.962"
##                      "1.983"   "12"   "6.65"    "2.698"
```

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```
##                     "1.977"  "8"     "4.29"     "1.876"
##                     "1.973"  "66"    "53.41"    "6.38"
##                     "1.973"  "52"    "40.31"    "5.925"
##                     "1.971"  "1127"  "1064.13"  "31.904"
##                     "1.968"  "52"    "40.52"    "5.834"
##                     "1.966"  "39"    "28.49"    "5.346"
##                     "1.965"  "40"    "30.87"    "4.646"
##                     "1.958"  "22"    "15.31"    "3.416"
##                     "1.956"  "6"     "2.83"     "1.621"
##                     "1.956"  "6"     "2.83"     "1.621"
##                     "1.955"  "443"   "404.12"   "19.89"
##                     "1.955"  "231"   "206.29"   "12.641"
##                     "1.951"  "10"    "5.08"     "2.521"
##                     "1.95"   "12"    "6.7"      "2.717"
##                     "1.945"  "31"    "21.99"    "4.633"
##                     "1.944"  "39"    "29.36"    "4.959"
##                     "1.943"  "15"    "9.42"     "2.872"
##                     "1.94"   "2"     "0.06"     "0.239"
##                     "1.939"  "128"   "108.14"   "10.245"
##                     "1.938"  "11"    "6.62"     "2.26"
##                     "1.937"  "9"     "5.08"     "2.023"
##                     "1.937"  "12"    "7.22"     "2.468"
##                     "1.932"  "19"    "12.86"    "3.178"
##                     "1.93"   "2"     "0.07"     "0.256"
##                     "1.92"   "3"     "1.08"     "0.981"
##                     "1.92"   "3"     "1.08"     "0.981"
##                     "1.92"   "3"     "1.08"     "0.895"
##                     "1.914"  "25"    "17.82"    "3.751"
##                     "1.912"  "6"     "3.07"     "1.533"
##                     "1.912"  "118"   "99.6"     "9.621"
##                     "1.912"  "6"     "3.07"     "1.533"
##                     "1.912"  "6"     "3.07"     "1.533"
##                     "1.91"   "2"     "0.09"     "0.288"
##                     "1.906"  "23"    "16.05"    "3.647"
##                     "1.902"  "39"    "29.82"    "4.827"
##                     "1.899"  "23"    "16.06"    "3.654"
##                     "1.897"  "8"     "4.46"     "1.866"
##                     "1.895"  "10"    "5.79"     "2.222"
##                     "1.895"  "7"     "3.57"     "1.81"
##                     "1.892"  "4"     "1.63"     "1.253"
##                     "1.892"  "27"    "19.68"    "3.869"
##                     "1.886"  "39"    "29.23"    "5.181"
##                     "1.884"  "6"     "3.05"     "1.566"
##                     "1.88"   "8"     "4.36"     "1.936"
##                     "1.879"  "3"     "1.08"     "1.022"
##                     "1.879"  "3"     "1.08"     "1.022"
##                     "1.879"  "20"    "13.14"    "3.652"
##                     "1.879"  "18"    "11.78"    "3.311"
##                     "1.877"  "194"   "171.02"   "12.243"
##                     "1.877"  "39"    "29.01"    "5.323"
##                     "1.875"  "11"    "6.66"     "2.315"
##                     "1.874"  "12"    "7.06"     "2.635"
##                     "1.873"  "62"    "48.2"     "7.369"
##                     "1.871"  "66"    "52.55"    "7.189"
```

```
##                      "1.868"   "20"    "12.73"    "3.892"
##                      "1.866"   "146"   "125.5"    "10.988"
##                      "1.86"    "2"     "0.14"     "0.377"
##                      "1.859"   "9"     "5.25"     "2.017"
##                      "1.858"   "11"    "6.19"     "2.589"
##                      "1.858"   "5"     "2.26"     "1.474"
##                      "1.855"   "31"    "21.83"    "4.942"
##                      "1.854"   "30"    "21.56"    "4.551"
##                      "1.853"   "60"    "48.27"    "6.329"
##                      "1.852"   "27"    "19.07"    "4.281"
##                      "1.85"    "2"     "0.15"     "0.359"
##                      "1.85"    "3"     "1.15"     "0.978"
##                      "1.849"   "60"    "47.58"    "6.718"
##                      "1.848"   "8"     "4.5"      "1.894"
##                      "1.847"   "11"    "6.59"     "2.387"
##                      "1.846"   "9"     "5.11"     "2.108"
##                      "1.846"   "164"   "143.77"   "10.957"
##                      "1.835"   "11"    "6.58"     "2.409"
##                      "1.834"   "53"    "40.7"     "6.707"
##                      "1.83"    "54"    "42.05"    "6.529"
##                      "1.828"   "12"    "6.75"     "2.872"
##                      "1.826"   "45"    "34.11"    "5.963"
##                      "1.825"   "8"     "4.38"     "1.984"
##                      "1.823"   "17"    "11.26"    "3.148"
##                      "1.816"   "60"    "47.75"    "6.744"
##                      "1.814"   "49"    "38.2"     "5.953"
##                      "1.812"   "13"    "8.03"     "2.743"
##                      "1.807"   "5"     "2.33"     "1.477"
##                      "1.804"   "13"    "7.9"      "2.827"
##                      "1.8"     "3"     "1.16"     "1.022"
##                      "1.8"     "7"     "3.64"     "1.867"
##                      "1.799"   "8"     "4.78"     "1.79"
##                      "1.795"   "24"    "17.45"    "3.65"
##                      "1.792"   "32"    "24.07"    "4.425"
##                      "1.79"    "11"    "6.64"     "2.435"
##                      "1.782"   "68"    "54.47"    "7.591"
##                      "1.78"    "223"   "200.87"   "12.435"
##                      "1.778"   "33"    "24.52"    "4.77"
##                      "1.775"   "75"    "63.43"    "6.518"
##                      "1.774"   "11"    "6.66"     "2.446"
##                      "1.773"   "11"    "6.77"     "2.386"
##                      "1.772"   "72"    "60.26"    "6.624"
##                      "1.767"   "13"    "8.24"     "2.694"
##                      "1.766"   "76"    "62.36"    "7.726"
##                      "1.763"   "3"     "1.12"     "1.066"
##                      "1.76"    "24"    "16.91"    "4.028"
##                      "1.759"   "75"    "61.4"     "7.732"
##                      "1.75"    "2"     "0.25"     "0.479"
##                      "1.749"   "36"    "26.37"    "5.506"
##                      "1.748"   "5"     "2.45"     "1.459"
##                      "1.747"   "17"    "11.25"    "3.292"
##                      "1.746"   "26"    "18.31"    "4.403"
##                      "1.74"    "34"    "25.85"    "4.683"
##                      "1.736"   "857"   "808.64"   "27.858"
```

```
##                   "1.734"   "14"    "8.52"     "3.161"
##                   "1.731"   "41"    "30.75"    "5.923"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.73"    "2"     "0.27"     "0.529"
##                   "1.728"   "252"   "226"      "15.049"
##                   "1.725"   "8"     "4.78"     "1.867"
##                   "1.725"   "8"     "4.78"     "1.867"
##                   "1.725"   "8"     "4.78"     "1.867"
##                   "1.725"   "8"     "4.78"     "1.867"
##                   "1.724"   "9"     "5.31"     "2.14"
##                   "1.724"   "57"    "45.91"    "6.432"
##                   "1.722"   "15"    "9.92"     "2.95"
##                   "1.72"    "2"     "0.28"     "0.514"
##                   "1.72"    "2"     "0.28"     "0.514"
##                   "1.72"    "2"     "0.28"     "0.514"
##                   "1.718"   "14"    "9.02"     "2.899"
##                   "1.716"   "89"    "74.59"    "8.399"
##                   "1.713"   "7"     "3.85"     "1.839"
##                   "1.71"    "2"     "0.29"     "0.591"
##                   "1.706"   "14"    "8.82"     "3.036"
##                   "1.701"   "4"     "1.87"     "1.253"
##                   "1.701"   "4"     "1.87"     "1.253"
##                   "1.701"   "4"     "1.87"     "1.253"
##                   "1.699"   "4"     "1.8"      "1.295"
##                   "1.697"   "19"    "13.74"    "3.1"
##                   "1.697"   "46"    "35.25"    "6.335"
##                   "1.694"   "12"    "7.08"     "2.905"
##                   "1.694"   "57"    "45.22"    "6.955"
##                   "1.69"    "19"    "13.01"    "3.543"
##                   "1.69"    "2"     "0.31"     "0.581"
##                   "1.689"   "37"    "28.21"    "5.205"
##                   "1.687"   "7"     "4.05"     "1.749"
##                   "1.686"   "12"    "7.17"     "2.864"
##                   "1.682"   "11"    "6.62"     "2.605"
##                   "1.679"   "42"    "33.26"    "5.204"
##                   "1.676"   "14"    "9.49"     "2.691"
##                   "1.67"    "5"     "2.41"     "1.551"
##                   "1.662"   "6"     "3.06"     "1.769"
##                   "1.661"   "97"    "83.15"    "8.339"
##                   "1.66"    "14"    "9.29"     "2.837"
##                   "1.66"    "2"     "0.34"     "0.536"
##                   "1.66"    "2"     "0.34"     "0.623"
##                   "1.658"   "20"    "13.66"    "3.825"
##                   "1.656"   "4"     "1.75"     "1.359"
##                   "1.655"   "8"     "4.89"     "1.88"
```

```
##                   "1.65"   "2"    "0.35"    "0.609"
##                   "1.647"  "32"   "23.96"   "4.88"
##                   "1.646"  "31"   "23.73"   "4.417"
##                   "1.646"  "3"    "1.28"    "1.045"
##                   "1.645"  "31"   "23.12"   "4.789"
##                   "1.645"  "37"   "28.75"   "5.014"
##                   "1.641"  "22"   "15.43"   "4.003"
##                   "1.641"  "555"  "513.85"  "25.078"
##                   "1.64"   "137"  "120.71"  "9.931"
##                   "1.64"   "2"    "0.36"    "0.644"
##                   "1.637"  "27"   "19.61"   "4.515"
##                   "1.637"  "67"   "55.48"   "7.037"
##                   "1.636"  "27"   "20.16"   "4.182"
##                   "1.63"   "2"    "0.37"    "0.58"
##                   "1.63"   "2"    "0.37"    "0.58"
##                   "1.625"  "20"   "13.99"   "3.7"
##                   "1.624"  "236"  "210.87"  "15.473"
##                   "1.621"  "17"   "11.84"   "3.184"
##                   "1.621"  "3"    "1.2"     "1.11"
##                   "1.621"  "3"    "1.2"     "1.11"
##                   "1.62"   "30"   "22.66"   "4.531"
##                   "1.618"  "15"   "9.94"    "3.126"
##                   "1.614"  "11"   "7.06"    "2.44"
##                   "1.612"  "6"    "2.99"    "1.867"
##                   "1.61"   "2"    "0.39"    "0.618"
##                   "1.609"  "44"   "34.32"   "6.015"
##                   "1.608"  "6"    "3.13"    "1.785"
##                   "1.608"  "39"   "30.71"   "5.155"
##                   "1.607"  "13"   "8.13"    "3.031"
##                   "1.606"  "236"  "211.6"   "15.191"
##                   "1.6"    "8"    "4.46"    "2.213"
##                   "1.6"    "2"    "0.4"     "0.711"
##                   "1.6"    "7"    "4.03"    "1.856"
##                   "1.598"  "59"   "49.06"   "6.22"
##                   "1.597"  "180"  "159.5"   "12.833"
##                   "1.596"  "122"  "105.03"  "10.63"
##                   "1.596"  "5"    "2.72"    "1.429"
##                   "1.596"  "3"    "1.21"    "1.122"
##                   "1.589"  "11"   "6.83"    "2.625"
##                   "1.586"  "30"   "22.87"   "4.496"
##                   "1.584"  "8"    "4.65"    "2.115"
##                   "1.581"  "471"  "438.23"  "20.732"
##                   "1.568"  "15"   "10.01"   "3.183"
##                   "1.566"  "12"   "7.66"    "2.771"
##                   "1.556"  "70"   "59.31"   "6.869"
##                   "1.556"  "10"   "6.25"    "2.409"
##                   "1.554"  "45"   "36.04"   "5.765"
##                   "1.552"  "54"   "44.55"   "6.089"
##                   "1.552"  "13"   "8.46"    "2.925"
##                   "1.552"  "5"    "2.54"    "1.585"
##                   "1.552"  "167"  "149.56"  "11.24"
##                   "1.552"  "13"   "8.46"    "2.925"
##                   "1.551"  "18"   "12.58"   "3.494"
##                   "1.55"   "10"   "5.97"    "2.599"
```

```
##                    "1.55"   "10"   "5.97"    "2.599"
##                    "1.546"  "59"   "49.06"   "6.429"
##                    "1.546"  "21"   "15.02"   "3.869"
##                    "1.546"  "11"   "7.18"    "2.472"
##                    "1.546"  "12"   "7.61"    "2.839"
##                    "1.537"  "28"   "21"      "4.555"
##                    "1.532"  "45"   "35.87"   "5.961"
##                    "1.531"  "152"  "135.8"   "10.584"
##                    "1.53"   "2"    "0.47"    "0.731"
##                    "1.53"   "2"    "0.47"    "0.731"
##                    "1.53"   "2"    "0.47"    "0.758"
##                    "1.53"   "2"    "0.47"    "0.688"
##                    "1.527"  "80"   "68.31"   "7.656"
##                    "1.526"  "3"    "1.31"    "1.107"
##                    "1.523"  "15"   "9.98"    "3.297"
##                    "1.519"  "64"   "53.4"    "6.978"
##                    "1.516"  "6"    "3.43"    "1.695"
##                    "1.515"  "44"   "34.69"   "6.144"
##                    "1.513"  "19"   "13.81"   "3.431"
##                    "1.51"   "2"    "0.49"    "0.659"
##                    "1.504"  "3"    "1.33"    "1.111"
##                    "1.504"  "92"   "79.3"    "8.442"
##                    "1.503"  "68"   "56.68"   "7.53"
##                    "1.5"    "4"    "1.93"    "1.38"
##                    "1.496"  "20"   "14.14"   "3.916"
##                    "1.494"  "326"  "303.29"  "15.2"
##                    "1.493"  "47"   "38.47"   "5.713"
##                    "1.492"  "73"   "61.49"   "7.713"
##                    "1.491"  "18"   "13"      "3.354"
##                    "1.49"   "115"  "100.51"  "9.726"
##                    "1.489"  "21"   "15.9"    "3.425"
##                    "1.487"  "12"   "7.59"    "2.965"
##                    "1.481"  "6"    "3.61"    "1.614"
##                    "1.48"   "80"   "66.13"   "9.373"
##                    "1.477"  "7"    "4.04"    "2.005"
##                    "1.476"  "3"    "1.48"    "1.03"
##                    "1.474"  "23"   "16.87"   "4.158"
##                    "1.473"  "5"    "2.51"    "1.691"
##                    "1.467"  "44"   "36.04"   "5.425"
##                    "1.466"  "68"   "57.71"   "7.017"
##                    "1.458"  "61"   "50.79"   "7.001"
##                    "1.454"  "27"   "20.42"   "4.524"
##                    "1.452"  "7"    "4.1"     "1.997"
##                    "1.451"  "6"    "3.32"    "1.847"
##                    "1.437"  "5"    "2.6"     "1.67"
##                    "1.435"  "3"    "1.32"    "1.171"
##                    "1.435"  "16"   "11.54"   "3.109"
##                    "1.434"  "23"   "16.89"   "4.261"
##                    "1.433"  "7"    "4.25"    "1.919"
##                    "1.427"  "20"   "14.49"   "3.863"
##                    "1.424"  "18"   "12.96"   "3.539"
##                    "1.423"  "67"   "57.27"   "6.837"
##                    "1.422"  "6"    "3.7"     "1.617"
##                    "1.422"  "42"   "33.5"    "5.976"
```

```
##                      "1.421"  "13"    "8.89"     "2.892"
##                      "1.416"  "12"    "7.94"     "2.867"
##                      "1.413"  "14"    "9.54"     "3.157"
##                      "1.401"  "16"    "10.63"    "3.834"
##                      "1.401"  "8"     "4.42"     "2.555"
##                      "1.4"    "2"     "0.6"      "0.711"
##                      "1.397"  "75"    "65.11"    "7.078"
##                      "1.395"  "18"    "13.32"    "3.354"
##                      "1.393"  "11"    "7.54"     "2.484"
##                      "1.392"  "37"    "29.83"    "5.152"
##                      "1.392"  "52"    "43.06"    "6.424"
##                      "1.391"  "25"    "18.67"    "4.551"
##                      "1.39"   "2"     "0.61"     "0.751"
##                      "1.39"   "2"     "0.61"     "0.815"
##                      "1.389"  "14"    "9.74"     "3.067"
##                      "1.388"  "32"    "25"       "5.043"
##                      "1.388"  "8"     "4.83"     "2.283"
##                      "1.383"  "27"    "21.45"    "4.014"
##                      "1.383"  "34"    "26.97"    "5.082"
##                      "1.38"   "2"     "0.62"     "0.776"
##                      "1.379"  "26"    "20.68"    "3.858"
##                      "1.377"  "41"    "32.95"    "5.845"
##                      "1.372"  "4"     "2.17"     "1.334"
##                      "1.372"  "4"     "2.17"     "1.334"
##                      "1.37"   "12"    "8.45"     "2.591"
##                      "1.369"  "14"    "9.66"     "3.169"
##                      "1.365"  "12"    "8.03"     "2.908"
##                      "1.362"  "338"   "308.86"   "21.395"
##                      "1.36"   "2"     "0.64"     "0.785"
##                      "1.357"  "387"   "362.47"   "18.076"
##                      "1.356"  "38"    "30.59"    "5.466"
##                      "1.354"  "12"    "8"        "2.954"
##                      "1.353"  "55"    "46.3"     "6.43"
##                      "1.35"   "2"     "0.65"     "0.821"
##                      "1.349"  "14"    "9.44"     "3.379"
##                      "1.345"  "66"    "54.95"    "8.215"
##                      "1.345"  "100"   "88.3"     "8.7"
##                      "1.345"  "6"     "3.44"     "1.903"
##                      "1.342"  "62"    "53.05"    "6.667"
##                      "1.341"  "5"     "2.77"     "1.663"
##                      "1.34"   "2"     "0.66"     "0.781"
##                      "1.34"   "2"     "0.66"     "0.742"
##                      "1.34"   "2"     "0.66"     "0.807"
##                      "1.34"   "2"     "0.66"     "0.742"
##                      "1.337"  "17"    "12.58"    "3.306"
##                      "1.33"   "2"     "0.67"     "0.792"
##                      "1.33"   "38"    "30.87"    "5.361"
##                      "1.326"  "74"    "64.32"    "7.299"
##                      "1.324"  "35"    "28.12"    "5.198"
##                      "1.32"   "4"     "2.1"      "1.439"
##                      "1.32"   "10"    "6.82"     "2.409"
##                      "1.319"  "7"     "4.53"     "1.872"
##                      "1.318"  "3"     "1.39"     "1.222"
##                      "1.317"  "37"    "30.12"    "5.225"
```

```
##                       "1.317"  "24"  "18.33"  "4.304"
##                       "1.315"  "24"  "18.09"  "4.495"
##                       "1.311"  "79"  "68.35"  "8.126"
##                       "1.311"  "62"  "52.26"  "7.43"
##                       "1.31"   "2"   "0.69"   "0.787"
##                       "1.31"   "2"   "0.69"   "0.929"
##                       "1.306"  "20"  "14.97"  "3.852"
##                       "1.305"  "17"  "12.58"  "3.388"
##                       "1.304"  "10"  "6.82"   "2.439"
##                       "1.302"  "86"  "74.78"  "8.621"
##                       "1.301"  "44"  "36.76"  "5.565"
##                       "1.3"    "9"   "5.9"    "2.385"
##                       "1.296"  "33"  "26.59"  "4.944"
##                       "1.294"  "8"   "5.11"   "2.233"
##                       "1.29"   "23"  "17.27"  "4.442"
##                       "1.29"   "2"   "0.71"   "0.832"
##                       "1.288"  "6"   "3.67"   "1.809"
##                       "1.287"  "4"   "2.17"   "1.422"
##                       "1.286"  "10"  "6.6"    "2.644"
##                       "1.286"  "11"  "7.72"   "2.551"
##                       "1.286"  "7"   "4.47"   "1.967"
##                       "1.281"  "66"  "57.31"  "6.785"
##                       "1.28"   "2"   "0.72"   "0.911"
##                       "1.279"  "81"  "69.9"   "8.678"
##                       "1.279"  "11"  "7.57"   "2.683"
##                       "1.277"  "9"   "6.2"    "2.193"
##                       "1.274"  "11"  "7.75"   "2.552"
##                       "1.274"  "11"  "7.64"   "2.638"
##                       "1.274"  "3"   "1.42"   "1.241"
##                       "1.272"  "26"  "20.6"   "4.245"
##                       "1.27"   "2"   "0.73"   "0.839"
##                       "1.27"   "27"  "21.41"  "4.402"
##                       "1.264"  "80"  "71.04"  "7.088"
##                       "1.259"  "55"  "46.61"  "6.667"
##                       "1.254"  "3"   "1.56"   "1.149"
##                       "1.254"  "3"   "1.56"   "1.149"
##                       "1.254"  "3"   "1.56"   "1.149"
##                       "1.251"  "97"  "86.86"  "8.103"
##                       "1.249"  "18"  "13.46"  "3.636"
##                       "1.245"  "7"   "4.16"   "2.282"
##                       "1.245"  "6"   "3.72"   "1.832"
##                       "1.245"  "7"   "4.16"   "2.282"
##                       "1.244"  "31"  "24.82"  "4.967"
##                       "1.243"  "75"  "65.86"  "7.354"
##                       "1.242"  "10"  "6.67"   "2.682"
##                       "1.241"  "24"  "18.63"  "4.327"
##                       "1.24"   "2"   "0.76"   "0.955"
##                       "1.24"   "2"   "0.76"   "0.878"
##                       "1.24"   "16"  "11.88"  "3.322"
##                       "1.24"   "2"   "0.76"   "0.866"
##                       "1.24"   "2"   "0.76"   "0.866"
##                       "1.235"  "74"  "64.45"  "7.735"
##                       "1.23"   "2"   "0.77"   "0.863"
##                       "1.228"  "3"   "1.58"   "1.156"
```

```
##                       "1.224"  "37"    "30.37"   "5.415"
##                       "1.224"  "4"     "2.27"    "1.413"
##                       "1.224"  "4"     "2.27"    "1.413"
##                       "1.224"  "124"   "110.65"  "10.907"
##                       "1.221"  "10"    "7.13"    "2.351"
##                       "1.22"   "2"     "0.78"    "0.871"
##                       "1.218"  "40"    "33.15"   "5.625"
##                       "1.218"  "8"     "5.42"    "2.119"
##                       "1.216"  "20"    "15.34"   "3.833"
##                       "1.214"  "8"     "5.07"    "2.413"
##                       "1.211"  "26"    "20.21"   "4.781"
##                       "1.21"   "2"     "0.79"    "0.891"
##                       "1.207"  "28"    "22.27"   "4.746"
##                       "1.206"  "22"    "17.47"   "3.756"
##                       "1.204"  "10"    "6.87"    "2.6"
##                       "1.204"  "23"    "17.68"   "4.417"
##                       "1.203"  "8"     "5.45"    "2.12"
##                       "1.201"  "43"    "35.32"   "6.393"
##                       "1.199"  "8"     "5.43"    "2.143"
##                       "1.197"  "6"     "3.88"    "1.771"
##                       "1.197"  "21"    "16.29"   "3.935"
##                       "1.195"  "165"   "152.18"  "10.727"
##                       "1.194"  "5"     "3"       "1.676"
##                       "1.194"  "19"    "14.24"   "3.988"
##                       "1.193"  "23"    "18.71"   "3.597"
##                       "1.19"   "2"     "0.81"    "0.861"
##                       "1.188"  "11"    "7.74"    "2.744"
##                       "1.188"  "154"   "141.12"  "10.843"
##                       "1.186"  "9"     "5.77"    "2.722"
##                       "1.186"  "12"    "8.64"    "2.834"
##                       "1.185"  "291"   "272.68"  "15.463"
##                       "1.184"  "16"    "12.19"   "3.218"
##                       "1.184"  "16"    "12.19"   "3.218"
##                       "1.184"  "16"    "12.19"   "3.218"
##                       "1.184"  "16"    "12.19"   "3.218"
##                       "1.184"  "41"    "34.68"   "5.337"
##                       "1.182"  "19"    "14.83"   "3.528"
##                       "1.18"   "12"    "8.76"    "2.746"
##                       "1.179"  "34"    "26.83"   "6.082"
##                       "1.17"   "2"     "0.83"    "0.877"
##                       "1.17"   "3"     "1.61"    "1.188"
##                       "1.169"  "17"    "12.93"   "3.482"
##                       "1.168"  "22"    "17.05"   "4.236"
##                       "1.167"  "8"     "5.17"    "2.425"
##                       "1.167"  "12"    "8.51"    "2.99"
##                       "1.166"  "10"    "7.3"     "2.316"
##                       "1.164"  "136"   "123.45"  "10.786"
##                       "1.163"  "6"     "3.89"    "1.814"
##                       "1.162"  "53"    "45.83"   "6.173"
##                       "1.158"  "27"    "21.95"   "4.361"
##                       "1.157"  "21"    "16.6"    "3.803"
##                       "1.157"  "4"     "2.39"    "1.392"
##                       "1.156"  "130"   "116.61"  "11.582"
##                       "1.155"  "16"    "12.07"   "3.403"
```

```
##                      "1.154"  "29"   "23.54"   "4.73"
##                      "1.148"  "40"   "33.08"   "6.026"
##                      "1.143"  "13"   "9.7"     "2.887"
##                      "1.143"  "24"   "19.1"    "4.289"
##                      "1.14"   "2"    "0.86"    "0.995"
##                      "1.139"  "113"  "102.84"  "8.924"
##                      "1.136"  "31"   "25.76"   "4.615"
##                      "1.135"  "107"  "96.43"   "9.314"
##                      "1.133"  "10"   "6.98"    "2.667"
##                      "1.131"  "24"   "18.78"   "4.614"
##                      "1.131"  "13"   "9.47"    "3.122"
##                      "1.129"  "32"   "25.84"   "5.455"
##                      "1.128"  "101"  "90.4"    "9.399"
##                      "1.124"  "35"   "29.2"    "5.162"
##                      "1.122"  "6"    "3.69"    "2.058"
##                      "1.122"  "6"    "3.81"    "1.952"
##                      "1.118"  "29"   "23.65"   "4.787"
##                      "1.115"  "5"    "3.05"    "1.749"
##                      "1.109"  "3"    "1.66"    "1.208"
##                      "1.108"  "20"   "15.78"   "3.807"
##                      "1.1"    "2"    "0.9"     "0.859"
##                      "1.1"    "2"    "0.9"     "0.859"
##                      "1.094"  "46"   "39.48"   "5.959"
##                      "1.094"  "18"   "13.98"   "3.676"
##                      "1.093"  "93"   "83.07"   "9.082"
##                      "1.091"  "5"    "2.97"    "1.861"
##                      "1.089"  "16"   "12.02"   "3.654"
##                      "1.087"  "3"    "1.65"    "1.242"
##                      "1.087"  "3"    "1.65"    "1.242"
##                      "1.087"  "30"   "24.69"   "4.886"
##                      "1.087"  "7"    "4.53"    "2.272"
##                      "1.087"  "3"    "1.65"    "1.242"
##                      "1.087"  "8"    "5.66"    "2.152"
##                      "1.086"  "13"   "9.64"    "3.093"
##                      "1.085"  "4"    "2.47"    "1.41"
##                      "1.085"  "82"   "72.41"   "8.84"
##                      "1.085"  "4"    "2.47"    "1.41"
##                      "1.085"  "4"    "2.47"    "1.41"
##                      "1.085"  "4"    "2.47"    "1.41"
##                      "1.081"  "10"   "6.71"    "3.043"
##                      "1.076"  "41"   "34.6"    "5.949"
##                      "1.076"  "9"    "6.14"    "2.659"
##                      "1.074"  "4"    "2.47"    "1.425"
##                      "1.068"  "21"   "16.78"   "3.951"
##                      "1.066"  "30"   "24.54"   "5.124"
##                      "1.066"  "7"    "4.63"    "2.223"
##                      "1.065"  "64"   "55.84"   "7.663"
##                      "1.062"  "113"  "103.34"  "9.098"
##                      "1.062"  "67"   "58.79"   "7.728"
##                      "1.061"  "35"   "29.67"   "5.023"
##                      "1.056"  "116"  "106.28"  "9.204"
##                      "1.054"  "15"   "11.28"   "3.528"
##                      "1.05"   "2"    "0.95"    "0.833"
##                      "1.05"   "2"    "0.95"    "0.892"
```

```
##                    "1.05"   "2"     "0.95"    "0.833"
##                    "1.05"   "2"     "0.95"    "0.892"
##                    "1.05"   "2"     "0.95"    "0.892"
##                    "1.05"   "2"     "0.95"    "0.892"
##                    "1.049"  "7"     "4.77"    "2.127"
##                    "1.049"  "321"   "302.52"  "17.623"
##                    "1.049"  "20"    "16.34"   "3.488"
##                    "1.047"  "55"    "47.8"    "6.878"
##                    "1.045"  "8"     "5.49"    "2.402"
##                    "1.041"  "29"    "24.08"   "4.724"
##                    "1.037"  "2"     "0.92"    "1.041"
##                    "1.035"  "15"    "11.41"   "3.47"
##                    "1.034"  "13"    "9.85"    "3.046"
##                    "1.03"   "2"     "0.97"    "0.958"
##                    "1.029"  "11"    "8.3"     "2.623"
##                    "1.027"  "15"    "11.53"   "3.38"
##                    "1.027"  "15"    "11.53"   "3.38"
##                    "1.023"  "7"     "4.58"    "2.366"
##                    "1.022"  "54"    "47.71"   "6.152"
##                    "1.017"  "20"    "15.8"    "4.129"
##                    "1.016"  "67"    "59.21"   "7.666"
##                    "1.015"  "9"     "6.34"    "2.622"
##                    "1.011"  "5"     "3.25"    "1.731"
##                    "1.008"  "50"    "43.75"   "6.203"
##                    "1.007"  "21"    "17.34"   "3.635"
##                    "1.005"  "41"    "35"      "5.968"
##                    "1.005"  "23"    "18.95"   "4.031"
##                    "1.003"  "64"    "57.19"   "6.792"
##                    "1.003"  "7"     "4.84"    "2.154"
##                    "1"      "13"    "9.91"    "3.092"
##                    "1"      "1"     "0"       "0"
##                    "1"      "1"     "0"       "0"
##                    "1"      "3"     "1.74"    "1.26"
##                    "1"      "1"     "0"       "0"
##                    "1"      "1"     "0"       "0"
##                    "1"      "1"     "0"       "0"
##                    "0.997"  "39"    "32.97"   "6.046"
##                    "0.991"  "8"     "5.77"    "2.251"
##                    "0.99"   "1"     "0.01"    "0.1"
##                    "0.99"   "2"     "1.01"    "0.959"
##                    "0.99"   "1"     "0.01"    "0.1"
##                    "0.982"  "9"     "6.5"     "2.545"
##                    "0.982"  "76"    "68.01"   "8.14"
##                    "0.981"  "13"    "10.22"   "2.834"
##                    "0.98"   "1"     "0.02"    "0.141"
##                    "0.98"   "1"     "0.02"    "0.141"
##                    "0.98"   "75"    "67.73"   "7.419"
##                    "0.979"  "6"     "4.17"    "1.87"
##                    "0.977"  "2"     "0.98"    "1.044"
##                    "0.975"  "11"    "8.22"    "2.852"
##                    "0.974"  "28"    "24.09"   "4.013"
##                    "0.973"  "13"    "10.19"   "2.887"
##                    "0.973"  "13"    "10.19"   "2.887"
##                    "0.97"   "2"     "1.03"    "0.958"
```

```
##                         "0.97"   "1"    "0.03"    "0.223"
##                         "0.97"   "2"    "1.03"    "0.958"
##                         "0.962"  "38"   "32.66"   "5.549"
##                         "0.96"   "1"    "0.04"    "0.197"
##                         "0.96"   "2"    "1.04"    "0.898"
##                         "0.956"  "2"    "0.97"    "1.077"
##                         "0.953"  "4"    "2.43"    "1.647"
##                         "0.952"  "6"    "3.95"    "2.153"
##                         "0.951"  "5"    "3.4"     "1.682"
##                         "0.95"   "1"    "0.05"    "0.219"
##                         "0.95"   "1"    "0.05"    "0.219"
##                         "0.95"   "1"    "0.05"    "0.219"
##                         "0.95"   "1"    "0.05"    "0.219"
##                         "0.945"  "4"    "2.46"    "1.629"
##                         "0.945"  "25"   "21.18"   "4.044"
##                         "0.942"  "23"   "19.45"   "3.767"
##                         "0.942"  "99"   "89.69"   "9.886"
##                         "0.94"   "1"    "0.06"    "0.239"
##                         "0.94"   "2"    "1.06"    "0.952"
##                         "0.94"   "1"    "0.06"    "0.239"
##                         "0.938"  "15"   "12.16"   "3.028"
##                         "0.935"  "5"    "3.39"    "1.723"
##                         "0.932"  "65"   "58.41"   "7.073"
##                         "0.931"  "4"    "2.64"    "1.46"
##                         "0.93"   "1"    "0.07"    "0.256"
##                         "0.93"   "1"    "0.07"    "0.256"
##                         "0.93"   "1"    "0.07"    "0.293"
##                         "0.929"  "45"   "39.3"    "6.132"
##                         "0.928"  "3"    "1.78"    "1.315"
##                         "0.928"  "3"    "1.78"    "1.315"
##                         "0.928"  "3"    "1.78"    "1.315"
##                         "0.926"  "15"   "12.04"   "3.197"
##                         "0.925"  "3"    "1.75"    "1.351"
##                         "0.924"  "2"    "1.05"    "1.029"
##                         "0.923"  "8"    "5.88"    "2.297"
##                         "0.921"  "3"    "1.8"     "1.303"
##                         "0.92"   "1"    "0.08"    "0.273"
##                         "0.92"   "1"    "0.08"    "0.273"
##                         "0.92"   "1"    "0.08"    "0.273"
##                         "0.92"   "88"   "80.33"   "8.336"
##                         "0.92"   "1"    "0.08"    "0.273"
##                         "0.919"  "2"    "1.06"    "1.023"
##                         "0.919"  "2"    "1.06"    "1.023"
##                         "0.917"  "6"    "4.19"    "1.973"
##                         "0.917"  "13"   "10.24"   "3.009"
##                         "0.916"  "3"    "1.8"     "1.31"
##                         "0.911"  "12"   "9.37"    "2.887"
##                         "0.911"  "47"   "41.17"   "6.396"
##                         "0.91"   "1"    "0.09"    "0.288"
##                         "0.91"   "1"    "0.09"    "0.288"
##                         "0.91"   "1"    "0.09"    "0.288"
##                         "0.91"   "1"    "0.09"    "0.288"
##                         "0.91"   "1"    "0.09"    "0.288"
##                         "0.91"   "1"    "0.09"    "0.288"
```

```
##                    "0.91"    "1"    "0.09"    "0.288"
##                    "0.91"    "1"    "0.09"    "0.288"
##                    "0.91"    "1"    "0.09"    "0.288"
##                    "0.91"    "1"    "0.09"    "0.288"
##                    "0.908"   "4"    "2.65"    "1.486"
##                    "0.904"   "49"   "43.28"   "6.325"
##                    "0.904"   "21"   "17.63"   "3.727"
##                    "0.904"   "21"   "17.63"   "3.727"
##                    "0.902"   "67"   "60.42"   "7.295"
##                    "0.9"     "1"    "0.1"     "0.333"
##                    "0.9"     "23"   "19.16"   "4.268"
##                    "0.899"   "1104" "1072.1"  "35.478"
##                    "0.897"   "3"    "1.74"    "1.404"
##                    "0.893"   "28"   "24.21"   "4.246"
##                    "0.893"   "22"   "17.9"    "4.591"
##                    "0.892"   "19"   "15.74"   "3.656"
##                    "0.891"   "10"   "7.85"    "2.414"
##                    "0.89"    "1"    "0.11"    "0.314"
##                    "0.89"    "1"    "0.11"    "0.345"
##                    "0.89"    "1"    "0.11"    "0.373"
##                    "0.89"    "2"    "1.11"    "0.952"
##                    "0.89"    "1"    "0.11"    "0.314"
##                    "0.889"   "8"    "6.07"    "2.171"
##                    "0.885"   "24"   "20.18"   "4.317"
##                    "0.884"   "165"  "154.82"  "11.52"
##                    "0.882"   "21"   "18.03"   "3.368"
##                    "0.881"   "49"   "42.88"   "6.946"
##                    "0.88"    "1"    "0.12"    "0.327"
##                    "0.88"    "1"    "0.12"    "0.327"
##                    "0.88"    "1"    "0.12"    "0.356"
##                    "0.88"    "1"    "0.12"    "0.327"
##                    "0.88"    "7"    "4.85"    "2.443"
##                    "0.879"   "6"    "4.21"    "2.037"
##                    "0.874"   "30"   "26.21"   "4.338"
##                    "0.873"   "55"   "49.47"   "6.335"
##                    "0.873"   "21"   "17.71"   "3.769"
##                    "0.872"   "4"    "2.57"    "1.641"
##                    "0.87"    "77"   "69.73"   "8.352"
##                    "0.87"    "7"    "5.12"    "2.162"
##                    "0.87"    "1"    "0.13"    "0.338"
##                    "0.864"   "215"  "202.42"  "14.562"
##                    "0.864"   "70"   "63.73"   "7.253"
##                    "0.863"   "73"   "66.05"   "8.055"
##                    "0.861"   "2"    "1.11"    "1.034"
##                    "0.86"    "1"    "0.14"    "0.377"
##                    "0.859"   "3"    "1.87"    "1.315"
##                    "0.858"   "8"    "5.92"    "2.423"
##                    "0.855"   "15"   "12.01"   "3.497"
##                    "0.853"   "58"   "51.8"    "7.267"
##                    "0.852"   "29"   "25.4"    "4.224"
##                    "0.852"   "2"    "1.13"    "1.022"
##                    "0.851"   "18"   "14.88"   "3.666"
##                    "0.85"    "1"    "0.15"    "0.359"
##                    "0.85"    "1"    "0.15"    "0.359"
```

```
##                       "0.849"  "59"   "52.14"   "8.082"
##                       "0.846"  "16"   "12.86"   "3.712"
##                       "0.843"  "69"   "63.2"    "6.883"
##                       "0.842"  "80"   "73.81"   "7.355"
##                       "0.841"  "7"    "5.13"    "2.223"
##                       "0.841"  "58"   "52.03"   "7.096"
##                       "0.84"   "36"   "31.55"   "5.298"
##                       "0.84"   "17"   "14"      "3.573"
##                       "0.84"   "1"    "0.16"    "0.443"
##                       "0.84"   "1"    "0.16"    "0.395"
##                       "0.838"  "9"    "6.95"    "2.447"
##                       "0.838"  "15"   "12.05"   "3.52"
##                       "0.836"  "13"   "10.31"   "3.218"
##                       "0.836"  "57"   "52.06"   "5.912"
##                       "0.836"  "21"   "18.01"   "3.577"
##                       "0.832"  "25"   "21.18"   "4.589"
##                       "0.83"   "1"    "0.17"    "0.428"
##                       "0.829"  "22"   "18.92"   "3.716"
##                       "0.823"  "8"    "6.08"    "2.334"
##                       "0.823"  "8"    "6.08"    "2.334"
##                       "0.821"  "30"   "26.22"   "4.607"
##                       "0.82"   "1"    "0.18"    "0.458"
##                       "0.82"   "1"    "0.18"    "0.411"
##                       "0.818"  "12"   "9.55"    "2.996"
##                       "0.817"  "143"  "134.91"  "9.903"
##                       "0.816"  "22"   "18.66"   "4.093"
##                       "0.816"  "17"   "14.01"   "3.664"
##                       "0.816"  "151"  "141.95"  "11.091"
##                       "0.81"   "1"    "0.19"    "0.443"
##                       "0.81"   "45"   "40.01"   "6.16"
##                       "0.81"   "5"    "3.76"    "1.532"
##                       "0.81"   "21"   "17.68"   "4.097"
##                       "0.807"  "35"   "30.55"   "5.515"
##                       "0.806"  "14"   "11.06"   "3.648"
##                       "0.806"  "14"   "11.06"   "3.648"
##                       "0.805"  "3"    "1.94"    "1.317"
##                       "0.805"  "3"    "1.94"    "1.317"
##                       "0.805"  "3"    "1.94"    "1.317"
##                       "0.802"  "12"   "9.39"    "3.256"
##                       "0.802"  "28"   "24.56"   "4.291"
##                       "0.801"  "19"   "15.94"   "3.819"
##                       "0.8"    "2"    "1.2"     "0.888"
##                       "0.8"    "1"    "0.2"     "0.426"
##                       "0.791"  "33"   "28.62"   "5.537"
##                       "0.79"   "40"   "35.23"   "6.04"
##                       "0.79"   "1"    "0.21"    "0.456"
##                       "0.79"   "1"    "0.21"    "0.433"
##                       "0.788"  "13"   "10.44"   "3.248"
##                       "0.785"  "78"   "71.53"   "8.242"
##                       "0.782"  "5"    "3.68"    "1.687"
##                       "0.78"   "1"    "0.22"    "0.484"
##                       "0.78"   "69"   "63.13"   "7.527"
##                       "0.78"   "1"    "0.22"    "0.504"
##                       "0.78"   "1"    "0.22"    "0.484"
```

```
##                      "0.78"   "1"     "0.22"    "0.484"
##                      "0.778"  "2"     "1.16"    "1.08"
##                      "0.778"  "99"    "92.22"   "8.716"
##                      "0.777"  "42"    "37.57"   "5.7"
##                      "0.775"  "150"   "140.72"  "11.972"
##                      "0.775"  "33"    "28.82"   "5.391"
##                      "0.775"  "28"    "24.23"   "4.866"
##                      "0.771"  "3"     "1.93"    "1.387"
##                      "0.77"   "1"     "0.23"    "0.468"
##                      "0.769"  "10"    "7.95"    "2.664"
##                      "0.767"  "20"    "16.39"   "4.705"
##                      "0.764"  "5"     "3.4"     "2.094"
##                      "0.762"  "34"    "29.73"   "5.606"
##                      "0.761"  "15"    "12.34"   "3.497"
##                      "0.76"   "1"     "0.24"    "0.515"
##                      "0.757"  "3"     "1.98"    "1.348"
##                      "0.757"  "3"     "2.02"    "1.295"
##                      "0.755"  "2"     "1.13"    "1.152"
##                      "0.755"  "2"     "1.13"    "1.152"
##                      "0.755"  "2"     "1.13"    "1.152"
##                      "0.753"  "337"   "320.09"  "22.46"
##                      "0.75"   "6"     "4.38"    "2.159"
##                      "0.75"   "2"     "1.19"    "1.08"
##                      "0.749"  "31"    "27.28"   "4.967"
##                      "0.748"  "4"     "2.83"    "1.564"
##                      "0.748"  "23"    "19.83"   "4.238"
##                      "0.747"  "7"     "5.34"    "2.221"
##                      "0.747"  "3"     "1.88"    "1.499"
##                      "0.742"  "37"    "32.74"   "5.743"
##                      "0.74"   "1"     "0.26"    "0.579"
##                      "0.74"   "1"     "0.26"    "0.463"
##                      "0.74"   "1"     "0.26"    "0.505"
##                      "0.74"   "2"     "1.26"    "0.991"
##                      "0.74"   "14"    "11.48"   "3.407"
##                      "0.739"  "10"    "7.92"    "2.813"
##                      "0.734"  "2"     "1.21"    "1.076"
##                      "0.733"  "12"    "9.93"    "2.822"
##                      "0.731"  "27"    "23.48"   "4.813"
##                      "0.73"   "2"     "1.22"    "1.069"
##                      "0.73"   "1"     "0.27"    "0.529"
##                      "0.73"   "1"     "0.27"    "0.584"
##                      "0.73"   "1"     "0.27"    "0.529"
##                      "0.73"   "1"     "0.27"    "0.51"
##                      "0.729"  "23"    "19.8"    "4.392"
##                      "0.729"  "23"    "19.89"   "4.266"
##                      "0.724"  "14"    "11.16"   "3.92"
##                      "0.723"  "3"     "2.02"    "1.356"
##                      "0.723"  "3"     "2.02"    "1.356"
##                      "0.721"  "3"     "1.96"    "1.442"
##                      "0.72"   "44"    "39.45"   "6.319"
##                      "0.72"   "4"     "2.9"     "1.528"
##                      "0.719"  "4"     "2.8"     "1.67"
##                      "0.715"  "15"    "12.32"   "3.747"
##                      "0.714"  "9"     "7.34"    "2.323"
```

```
##                     "0.713"  "2"    "1.15"    "1.192"
##                     "0.71"   "1"    "0.29"    "0.556"
##                     "0.706"  "23"   "19.88"   "4.418"
##                     "0.705"  "4"    "2.76"    "1.759"
##                     "0.704"  "2"    "1.26"    "1.05"
##                     "0.702"  "36"   "32.11"   "5.538"
##                     "0.702"  "5"    "3.66"    "1.908"
##                     "0.701"  "12"   "9.75"    "3.211"
##                     "0.7"    "41"   "36.79"   "6.012"
##                     "0.7"    "1"    "0.3"     "0.595"
##                     "0.7"    "3"    "2.02"    "1.4"
##                     "0.7"    "12"   "9.86"    "3.055"
##                     "0.7"    "1"    "0.3"     "0.56"
##                     "0.699"  "9"    "7.21"    "2.56"
##                     "0.697"  "5"    "3.74"    "1.807"
##                     "0.696"  "31"   "27.23"   "5.418"
##                     "0.694"  "13"   "10.73"   "3.272"
##                     "0.694"  "75"   "69.53"   "7.88"
##                     "0.692"  "186"  "177.21"  "12.695"
##                     "0.69"   "293"  "281.69"  "16.397"
##                     "0.69"   "2"    "1.31"    "0.907"
##                     "0.69"   "1"    "0.31"    "0.581"
##                     "0.685"  "12"   "9.85"    "3.138"
##                     "0.684"  "2"    "1.29"    "1.038"
##                     "0.683"  "20"   "17.28"   "3.982"
##                     "0.683"  "56"   "51.52"   "6.557"
##                     "0.681"  "2"    "1.27"    "1.072"
##                     "0.68"   "1"    "0.32"    "0.53"
##                     "0.679"  "56"   "51.04"   "7.307"
##                     "0.678"  "2"    "1.29"    "1.047"
##                     "0.677"  "20"   "17.58"   "3.577"
##                     "0.676"  "29"   "25.46"   "5.237"
##                     "0.676"  "4"    "2.8"     "1.775"
##                     "0.676"  "6"    "4.58"    "2.099"
##                     "0.676"  "61"   "56.46"   "6.72"
##                     "0.676"  "6"    "4.58"    "2.099"
##                     "0.674"  "5"    "3.52"    "2.195"
##                     "0.673"  "10"   "7.94"    "3.061"
##                     "0.669"  "14"   "11.68"   "3.467"
##                     "0.669"  "9"    "7.32"    "2.51"
##                     "0.667"  "30"   "26.8"    "4.801"
##                     "0.665"  "185"  "175.38"  "14.457"
##                     "0.664"  "28"   "24.78"   "4.846"
##                     "0.663"  "2"    "1.26"    "1.116"
##                     "0.662"  "3"    "2.08"    "1.39"
##                     "0.66"   "14"   "12"      "3.032"
##                     "0.66"   "3"    "2.11"    "1.348"
##                     "0.659"  "8"    "6.3"     "2.58"
##                     "0.658"  "2"    "1.27"    "1.109"
##                     "0.658"  "61"   "55.88"   "7.78"
##                     "0.656"  "15"   "12.61"   "3.646"
##                     "0.655"  "4"    "2.95"    "1.604"
##                     "0.655"  "4"    "2.93"    "1.635"
##                     "0.655"  "4"    "2.95"    "1.604"
```

```
##                    "0.654"   "4"     "2.87"    "1.727"
##                    "0.653"   "2"     "1.22"    "1.194"
##                    "0.652"   "3"     "2.08"    "1.412"
##                    "0.65"    "4"     "2.93"    "1.647"
##                    "0.65"    "1"     "0.35"    "0.592"
##                    "0.649"   "16"    "13.48"   "3.883"
##                    "0.646"   "9"     "7.29"    "2.649"
##                    "0.642"   "5"     "3.86"    "1.775"
##                    "0.64"    "1"     "0.36"    "0.612"
##                    "0.64"    "1"     "0.36"    "0.612"
##                    "0.64"    "1"     "0.36"    "0.659"
##                    "0.64"    "1"     "0.36"    "0.56"
##                    "0.64"    "1"     "0.36"    "0.659"
##                    "0.64"    "1"     "0.36"    "0.542"
##                    "0.64"    "1"     "0.36"    "0.659"
##                    "0.637"   "18"    "15.67"   "3.657"
##                    "0.636"   "30"    "26.84"   "4.968"
##                    "0.629"   "13"    "10.93"   "3.288"
##                    "0.629"   "11"    "8.95"    "3.261"
##                    "0.628"   "76"    "70.78"   "8.308"
##                    "0.625"   "2"     "1.34"    "1.056"
##                    "0.621"   "20"    "17.5"    "4.026"
##                    "0.62"    "60"    "55.75"   "6.853"
##                    "0.62"    "1"     "0.38"    "0.616"
##                    "0.62"    "1"     "0.38"    "0.678"
##                    "0.62"    "1"     "0.38"    "0.565"
##                    "0.62"    "1"     "0.38"    "0.616"
##                    "0.62"    "1"     "0.38"    "0.678"
##                    "0.62"    "1"     "0.38"    "0.632"
##                    "0.62"    "1"     "0.38"    "0.616"
##                    "0.62"    "15"    "12.83"   "3.499"
##                    "0.62"    "1"     "0.38"    "0.565"
##                    "0.617"   "19"    "16.81"   "3.55"
##                    "0.616"   "127"   "120.42"  "10.682"
##                    "0.616"   "3"     "2.15"    "1.381"
##                    "0.614"   "12"    "9.94"    "3.354"
##                    "0.611"   "27"    "23.97"   "4.959"
##                    "0.61"    "1"     "0.39"    "0.618"
##                    "0.61"    "1"     "0.39"    "0.567"
##                    "0.61"    "1"     "0.39"    "0.567"
##                    "0.61"    "1"     "0.39"    "0.618"
##                    "0.61"    "1"     "0.39"    "0.53"
##                    "0.609"   "5"     "3.84"    "1.905"
##                    "0.608"   "11"    "9.23"    "2.912"
##                    "0.607"   "282"   "268.39"  "22.415"
##                    "0.6"     "1"     "0.4"     "0.636"
##                    "0.597"   "13"    "11.08"   "3.215"
##                    "0.594"   "65"    "60.33"   "7.861"
##                    "0.591"   "19"    "16.7"    "3.894"
##                    "0.59"    "1"     "0.41"    "0.637"
##                    "0.59"    "1"     "0.41"    "0.637"
##                    "0.588"   "14"    "12.02"   "3.366"
##                    "0.586"   "20"    "17.6"    "4.097"
##                    "0.584"   "2"     "1.34"    "1.13"
```

```
##                  "0.583"  "5"    "3.91"    "1.87"
##                  "0.58"   "1"    "0.42"    "0.638"
##                  "0.58"   "1"    "0.42"    "0.622"
##                  "0.58"   "1"    "0.42"    "0.638"
##                  "0.58"   "1"    "0.42"    "0.638"
##                  "0.58"   "1"    "0.42"    "0.638"
##                  "0.58"   "1"    "0.42"    "0.638"
##                  "0.58"   "1"    "0.42"    "0.606"
##                  "0.579"  "14"   "12.05"   "3.371"
##                  "0.577"  "276"  "263.13"  "22.314"
##                  "0.577"  "3"    "2.15"    "1.473"
##                  "0.577"  "3"    "2.15"    "1.473"
##                  "0.577"  "3"    "2.15"    "1.473"
##                  "0.577"  "3"    "2.15"    "1.473"
##                  "0.575"  "3"    "2.16"    "1.461"
##                  "0.574"  "57"   "52.99"   "6.987"
##                  "0.572"  "4"    "3.13"    "1.522"
##                  "0.572"  "19"   "17.01"   "3.477"
##                  "0.568"  "42"   "38.54"   "6.093"
##                  "0.567"  "2"    "1.33"    "1.181"
##                  "0.56"   "1"    "0.44"    "0.756"
##                  "0.555"  "3"    "2.13"    "1.568"
##                  "0.555"  "3"    "2.2"     "1.443"
##                  "0.555"  "3"    "2.2"     "1.443"
##                  "0.552"  "2"    "1.33"    "1.215"
##                  "0.552"  "29"   "26.48"   "4.563"
##                  "0.551"  "38"   "34.97"   "5.495"
##                  "0.55"   "2"    "1.45"    "0.968"
##                  "0.55"   "16"   "13.91"   "3.801"
##                  "0.55"   "1"    "0.45"    "0.609"
##                  "0.55"   "98"   "93.22"   "8.691"
##                  "0.547"  "14"   "12.05"   "3.566"
##                  "0.547"  "49"   "45.29"   "6.787"
##                  "0.547"  "14"   "12.05"   "3.566"
##                  "0.544"  "12"   "10.33"   "3.072"
##                  "0.543"  "26"   "23.4"    "4.784"
##                  "0.542"  "12"   "10.27"   "3.194"
##                  "0.54"   "1"    "0.46"    "0.626"
##                  "0.54"   "1"    "0.46"    "0.642"
##                  "0.54"   "1"    "0.46"    "0.642"
##                  "0.539"  "136"  "129.79"  "11.53"
##                  "0.537"  "21"   "18.89"   "3.931"
##                  "0.535"  "30"   "27.31"   "5.033"
##                  "0.534"  "44"   "40.78"   "6.026"
##                  "0.531"  "5"    "3.92"    "2.033"
##                  "0.531"  "2"    "1.37"    "1.186"
##                  "0.53"   "1"    "0.47"    "0.674"
##                  "0.53"   "1"    "0.47"    "0.745"
##                  "0.53"   "1"    "0.47"    "0.745"
##                  "0.53"   "1"    "0.47"    "0.745"
##                  "0.53"   "1"    "0.47"    "0.674"
##                  "0.53"   "1"    "0.47"    "0.674"
##                  "0.528"  "36"   "33.49"   "4.754"
##                  "0.527"  "3"    "2.21"    "1.499"
```

```
##                   "0.524"  "46"  "42.79"  "6.122"
##                   "0.524"  "6"   "4.9"    "2.101"
##                   "0.523"  "35"  "32.02"  "5.694"
##                   "0.522"  "7"   "5.75"   "2.393"
##                   "0.52"   "1"   "0.48"   "0.689"
##                   "0.52"   "96"  "91.59"  "8.473"
##                   "0.52"   "1"   "0.48"   "0.703"
##                   "0.517"  "57"  "53.41"  "6.947"
##                   "0.516"  "68"  "64.15"  "7.468"
##                   "0.513"  "6"   "4.8"    "2.34"
##                   "0.513"  "6"   "4.8"    "2.34"
##                   "0.51"   "11"  "9.48"   "2.98"
##                   "0.51"   "1"   "0.49"   "0.659"
##                   "0.51"   "1"   "0.49"   "0.595"
##                   "0.51"   "1"   "0.49"   "0.689"
##                   "0.51"   "1"   "0.49"   "0.659"
##                   "0.51"   "1"   "0.49"   "0.595"
##                   "0.51"   "30"  "27.29"  "5.309"
##                   "0.51"   "1"   "0.49"   "0.689"
##                   "0.51"   "1"   "0.49"   "0.628"
##                   "0.51"   "1"   "0.49"   "0.628"
##                   "0.508"  "10"  "8.63"   "2.699"
##                   "0.508"  "2"   "1.4"    "1.181"
##                   "0.508"  "11"  "9.59"   "2.775"
##                   "0.506"  "36"  "33.05"  "5.826"
##                   "0.506"  "2"   "1.45"   "1.086"
##                   "0.506"  "30"  "27.61"  "4.722"
##                   "0.505"  "62"  "58.37"  "7.194"
##                   "0.505"  "60"  "56.44"  "7.046"
##                   "0.505"  "2"   "1.42"   "1.148"
##                   "0.503"  "54"  "50.37"  "7.218"
##                   "0.5"    "1"   "0.5"    "0.611"
##                   "0.5"    "1"   "0.5"    "0.718"
##                   "0.5"    "1"   "0.5"    "0.718"
##                   "0.5"    "1"   "0.5"    "0.718"
##                   "0.5"    "1"   "0.5"    "0.718"
##                   "0.498"  "2"   "1.38"   "1.245"
##                   "0.498"  "38"  "35.34"  "5.339"
##                   "0.493"  "25"  "22.65"  "4.77"
##                   "0.491"  "25"  "22.32"  "5.453"
##                   "0.491"  "40"  "37.22"  "5.658"
##                   "0.491"  "25"  "22.8"   "4.477"
##                   "0.49"   "9"   "7.66"   "2.735"
##                   "0.49"   "1"   "0.51"   "0.745"
##                   "0.49"   "9"   "7.66"   "2.735"
##                   "0.49"   "1"   "0.51"   "0.835"
##                   "0.488"  "4"   "3.15"   "1.743"
##                   "0.487"  "5"   "3.97"   "2.115"
##                   "0.487"  "5"   "3.97"   "2.115"
##                   "0.486"  "29"  "26.59"  "4.963"
##                   "0.484"  "28"  "25.45"  "5.273"
##                   "0.481"  "14"  "12.25"  "3.641"
##                   "0.481"  "9"   "7.68"   "2.745"
##                   "0.48"   "95"  "90.49"  "9.388"
```

```
##                      "0.48"   "1"      "0.52"    "0.759"
##                      "0.48"   "1"      "0.52"    "0.759"
##                      "0.48"   "1"      "0.52"    "0.759"
##                      "0.48"   "125"    "119.92"  "10.574"
##                      "0.48"   "1"      "0.52"    "0.785"
##                      "0.48"   "1"      "0.52"    "0.759"
##                      "0.479"  "33"     "30.29"   "5.656"
##                      "0.476"  "129"    "123.42"  "11.72"
##                      "0.476"  "6"      "5.07"    "1.955"
##                      "0.473"  "5"      "4.1"     "1.904"
##                      "0.473"  "29"     "26.71"   "4.842"
##                      "0.472"  "6"      "4.96"    "2.202"
##                      "0.472"  "24"     "21.82"   "4.615"
##                      "0.471"  "23"     "20.9"    "4.457"
##                      "0.47"   "46"     "42.9"    "6.597"
##                      "0.47"   "246"    "238.61"  "15.709"
##                      "0.47"   "37"     "34.29"   "5.767"
##                      "0.47"   "1"      "0.53"    "0.771"
##                      "0.47"   "1"      "0.53"    "0.745"
##                      "0.468"  "30"     "27.47"   "5.408"
##                      "0.468"  "4"      "3.11"    "1.901"
##                      "0.468"  "4"      "3.11"    "1.901"
##                      "0.467"  "102"    "97.58"   "9.469"
##                      "0.467"  "3"      "2.23"    "1.651"
##                      "0.466"  "11"     "9.57"    "3.069"
##                      "0.466"  "4"      "3.22"    "1.673"
##                      "0.466"  "46"     "43.09"   "6.251"
##                      "0.466"  "91"     "86.96"   "8.661"
##                      "0.466"  "4"      "3.22"    "1.673"
##                      "0.465"  "19"     "17.15"   "3.981"
##                      "0.463"  "3"      "2.2"     "1.729"
##                      "0.463"  "3"      "2.2"     "1.729"
##                      "0.462"  "4"      "3.28"    "1.558"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.809"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.46"   "1"      "0.54"    "0.702"
##                      "0.458"  "4"      "3.21"    "1.725"
##                      "0.457"  "11"     "9.76"    "2.716"
##                      "0.456"  "11"     "9.51"    "3.271"
##                      "0.453"  "34"     "31.67"   "5.141"
##                      "0.453"  "178"    "172.18"  "12.856"
##                      "0.451"  "2"      "1.47"    "1.176"
##                      "0.451"  "308"    "299.19"  "19.514"
##                      "0.45"   "1"      "0.55"    "0.73"
##                      "0.45"   "1"      "0.55"    "0.702"
##                      "0.45"   "1"      "0.55"    "0.702"
```

```
##                         "0.45"   "1"    "0.55"   "0.702"
##                         "0.45"   "1"    "0.55"   "0.702"
##                         "0.45"   "1"    "0.55"   "0.702"
##                         "0.449"  "66"   "62.45"  "7.913"
##                         "0.446"  "8"    "6.85"   "2.576"
##                         "0.445"  "52"   "49.01"  "6.717"
##                         "0.442"  "2"    "1.48"   "1.176"
##                         "0.441"  "20"   "18.16"  "4.172"
##                         "0.441"  "11"   "9.72"   "2.899"
##                         "0.44"   "1"    "0.56"   "0.756"
##                         "0.44"   "1"    "0.56"   "0.701"
##                         "0.436"  "11"   "9.73"   "2.912"
##                         "0.435"  "7"    "5.88"   "2.575"
##                         "0.435"  "8"    "6.89"   "2.55"
##                         "0.435"  "9"    "7.92"   "2.485"
##                         "0.435"  "2"    "1.54"   "1.058"
##                         "0.434"  "34"   "31.48"  "5.801"
##                         "0.433"  "16"   "14.23"  "4.092"
##                         "0.433"  "15"   "13.36"  "3.783"
##                         "0.432"  "4"    "3.24"   "1.759"
##                         "0.43"   "1"    "0.57"   "0.685"
##                         "0.427"  "3"    "2.33"   "1.57"
##                         "0.426"  "21"   "19.15"  "4.345"
##                         "0.426"  "8"    "6.9"    "2.584"
##                         "0.426"  "5"    "4.13"   "2.043"
##                         "0.425"  "38"   "35.36"  "6.209"
##                         "0.425"  "2"    "1.53"   "1.105"
##                         "0.421"  "5"    "4.21"   "1.876"
##                         "0.42"   "1"    "0.58"   "0.727"
##                         "0.419"  "6"    "5.17"   "1.98"
##                         "0.416"  "39"   "36.53"  "5.943"
##                         "0.416"  "47"   "44.36"  "6.343"
##                         "0.415"  "25"   "22.93"  "4.985"
##                         "0.412"  "82"   "79.05"  "7.165"
##                         "0.41"   "32"   "29.88"  "5.166"
##                         "0.41"   "1"    "0.59"   "0.805"
##                         "0.41"   "2"    "1.48"   "1.267"
##                         "0.41"   "1"    "0.59"   "0.698"
##                         "0.409"  "3"    "2.39"   "1.49"
##                         "0.407"  "4"    "3.25"   "1.844"
##                         "0.406"  "17"   "15.57"  "3.52"
##                         "0.404"  "4"    "3.24"   "1.881"
##                         "0.404"  "30"   "27.89"  "5.216"
##                         "0.403"  "8"    "6.96"   "2.578"
##                         "0.4"    "1"    "0.6"    "0.725"
##                         "0.4"    "1"    "0.6"    "0.725"
##                         "0.399"  "5"    "4.19"   "2.029"
##                         "0.398"  "9"    "7.95"   "2.638"
##                         "0.396"  "13"   "11.67"  "3.361"
##                         "0.395"  "12"   "10.7"   "3.295"
##                         "0.395"  "8"    "6.96"   "2.636"
##                         "0.392"  "14"   "12.69"  "3.341"
##                         "0.39"   "1"    "0.61"   "0.665"
##                         "0.39"   "1"    "0.61"   "0.665"
```

```
##                     "0.388"  "6"    "5.19"    "2.087"
##                     "0.384"  "8"    "7.02"    "2.55"
##                     "0.382"  "18"   "16.39"   "4.214"
##                     "0.38"   "1"    "0.62"    "0.789"
##                     "0.38"   "1"    "0.62"    "0.789"
##                     "0.38"   "1"    "0.62"    "0.736"
##                     "0.38"   "4"    "3.34"    "1.736"
##                     "0.38"   "44"   "41.66"   "6.15"
##                     "0.38"   "50"   "47.8"    "5.791"
##                     "0.38"   "1"    "0.62"    "0.814"
##                     "0.377"  "66"   "63.51"   "6.607"
##                     "0.377"  "3"    "2.38"    "1.644"
##                     "0.376"  "2"    "1.53"    "1.251"
##                     "0.374"  "25"   "23.22"   "4.762"
##                     "0.37"   "1"    "0.63"    "0.72"
##                     "0.37"   "1"    "0.63"    "0.761"
##                     "0.37"   "13"   "11.8"    "3.244"
##                     "0.37"   "1"    "0.63"    "0.761"
##                     "0.37"   "1"    "0.63"    "0.72"
##                     "0.37"   "57"   "54.41"   "7.002"
##                     "0.37"   "1"    "0.63"    "0.787"
##                     "0.37"   "1"    "0.63"    "0.72"
##                     "0.367"  "3"    "2.43"    "1.552"
##                     "0.364"  "12"   "10.79"   "3.322"
##                     "0.364"  "29"   "27.28"   "4.731"
##                     "0.363"  "35"   "32.96"   "5.619"
##                     "0.361"  "9"    "7.98"    "2.825"
##                     "0.36"   "7"    "6.05"    "2.638"
##                     "0.359"  "31"   "29.13"   "5.202"
##                     "0.358"  "2"    "1.59"    "1.147"
##                     "0.355"  "55"   "52.58"   "6.824"
##                     "0.352"  "30"   "28.17"   "5.199"
##                     "0.352"  "129"  "125.18"  "10.837"
##                     "0.351"  "2"    "1.5"     "1.425"
##                     "0.35"   "1"    "0.65"    "0.716"
##                     "0.35"   "1"    "0.65"    "0.716"
##                     "0.35"   "1"    "0.65"    "0.716"
##                     "0.35"   "1"    "0.65"    "0.716"
##                     "0.35"   "1"    "0.65"    "0.716"
##                     "0.35"   "1"    "0.65"    "0.73"
##                     "0.349"  "19"   "17.63"   "3.93"
##                     "0.348"  "3"    "2.42"    "1.665"
##                     "0.347"  "3"    "2.5"     "1.439"
##                     "0.344"  "3"    "2.49"    "1.48"
##                     "0.343"  "16"   "14.72"   "3.736"
##                     "0.343"  "7"    "6.17"    "2.421"
##                     "0.342"  "23"   "21.45"   "4.531"
##                     "0.341"  "3"    "2.4"     "1.758"
##                     "0.341"  "12"   "10.93"   "3.137"
##                     "0.341"  "4"    "3.43"    "1.671"
##                     "0.34"   "1"    "0.66"    "0.768"
##                     "0.34"   "1"    "0.66"    "0.901"
##                     "0.34"   "1"    "0.66"    "0.714"
##                     "0.34"   "1"    "0.66"    "0.714"
```

```
##                    "0.34"   "1"    "0.66"    "0.714"
##                    "0.34"   "1"    "0.66"    "0.714"
##                    "0.34"   "1"    "0.66"    "0.714"
##                    "0.34"   "1"    "0.66"    "0.714"
##                    "0.34"   "1"    "0.66"    "0.714"
##                    "0.34"   "9"    "7.96"    "3.055"
##                    "0.34"   "1"    "0.66"    "0.714"
##                    "0.338"  "2"    "1.61"    "1.154"
##                    "0.338"  "2"    "1.61"    "1.154"
##                    "0.333"  "7"    "6.14"    "2.586"
##                    "0.332"  "6"    "5.28"    "2.17"
##                    "0.331"  "56"   "53.42"   "7.806"
##                    "0.33"   "1"    "0.67"    "0.792"
##                    "0.329"  "4"    "3.43"    "1.731"
##                    "0.325"  "7"    "6.13"    "2.677"
##                    "0.321"  "23"   "21.77"   "3.827"
##                    "0.32"   "1"    "0.68"    "0.723"
##                    "0.32"   "1"    "0.68"    "0.803"
##                    "0.32"   "1"    "0.68"    "0.723"
##                    "0.32"   "1"    "0.68"    "0.75"
##                    "0.318"  "2"    "1.64"    "1.133"
##                    "0.315"  "3"    "2.51"    "1.554"
##                    "0.315"  "34"   "32.2"    "5.707"
##                    "0.315"  "4"    "3.43"    "1.81"
##                    "0.312"  "7"    "6.31"    "2.214"
##                    "0.312"  "7"    "6.31"    "2.214"
##                    "0.31"   "1"    "0.69"    "0.761"
##                    "0.31"   "1"    "0.69"    "0.813"
##                    "0.31"   "12"   "10.95"   "3.386"
##                    "0.305"  "2"    "1.6"     "1.31"
##                    "0.301"  "2"    "1.66"    "1.13"
##                    "0.3"    "1"    "0.7"     "0.893"
##                    "0.299"  "9"    "8.13"    "2.912"
##                    "0.297"  "37"   "35.32"   "5.657"
##                    "0.297"  "36"   "34.24"   "5.922"
##                    "0.296"  "28"   "26.61"   "4.692"
##                    "0.294"  "25"   "23.6"    "4.765"
##                    "0.293"  "5"    "4.41"    "2.016"
##                    "0.29"   "1"    "0.71"    "0.856"
##                    "0.29"   "8"    "7.23"    "2.659"
##                    "0.29"   "1"    "0.71"    "0.844"
##                    "0.289"  "36"   "34.36"   "5.67"
##                    "0.288"  "19"   "17.79"   "4.203"
##                    "0.286"  "8"    "7.28"    "2.515"
##                    "0.286"  "3"    "2.52"    "1.679"
##                    "0.284"  "96"   "93.23"   "9.742"
##                    "0.284"  "20"   "18.92"   "3.802"
##                    "0.283"  "24"   "22.87"   "3.989"
##                    "0.283"  "5"    "4.43"    "2.011"
##                    "0.283"  "7"    "6.2"     "2.828"
##                    "0.283"  "68"   "65.71"   "8.102"
##                    "0.282"  "2"    "1.68"    "1.136"
##                    "0.28"   "1"    "0.72"    "0.74"
##                    "0.28"   "1"    "0.72"    "0.792"
```

```
##                    "0.28"   "1"    "0.72"    "0.889"
##                    "0.278"  "5"    "4.46"    "1.946"
##                    "0.276"  "16"   "15"      "3.629"
##                    "0.276"  "2"    "1.64"    "1.307"
##                    "0.276"  "40"   "38.25"   "6.347"
##                    "0.271"  "17"   "15.93"   "3.945"
##                    "0.27"   "1"    "0.73"    "0.777"
##                    "0.269"  "64"   "61.91"   "7.776"
##                    "0.267"  "35"   "33.35"   "6.18"
##                    "0.267"  "28"   "26.53"   "5.5"
##                    "0.265"  "7"    "6.33"    "2.531"
##                    "0.263"  "76"   "73.83"   "8.261"
##                    "0.261"  "3"    "2.59"    "1.571"
##                    "0.26"   "1"    "0.74"    "0.76"
##                    "0.26"   "2"    "1.68"    "1.23"
##                    "0.259"  "4"    "3.55"    "1.737"
##                    "0.259"  "30"   "28.56"   "5.564"
##                    "0.257"  "14"   "13.01"   "3.849"
##                    "0.256"  "14"   "13.09"   "3.556"
##                    "0.25"   "1"    "0.75"    "0.796"
##                    "0.25"   "1"    "0.75"    "0.821"
##                    "0.249"  "49"   "47.41"   "6.379"
##                    "0.249"  "24"   "22.81"   "4.786"
##                    "0.248"  "4"    "3.51"    "1.977"
##                    "0.247"  "2"    "1.69"    "1.253"
##                    "0.244"  "46"   "44.55"   "5.935"
##                    "0.242"  "6"    "5.52"    "1.987"
##                    "0.24"   "1"    "0.76"    "0.922"
##                    "0.24"   "1"    "0.76"    "0.922"
##                    "0.24"   "1"    "0.76"    "0.933"
##                    "0.24"   "1"    "0.76"    "0.922"
##                    "0.24"   "1"    "0.76"    "0.866"
##                    "0.238"  "21"   "20.08"   "3.866"
##                    "0.236"  "14"   "13.17"   "3.511"
##                    "0.234"  "2"    "1.7"     "1.283"
##                    "0.232"  "2"    "1.73"    "1.162"
##                    "0.231"  "143"  "140.6"   "10.381"
##                    "0.23"   "1"    "0.77"    "0.941"
##                    "0.23"   "21"   "19.94"   "4.607"
##                    "0.229"  "25"   "23.81"   "5.191"
##                    "0.229"  "17"   "16.19"   "3.538"
##                    "0.227"  "3"    "2.66"    "1.499"
##                    "0.226"  "38"   "36.66"   "5.936"
##                    "0.226"  "159"  "155.84"  "14.008"
##                    "0.225"  "48"   "46.38"   "7.197"
##                    "0.224"  "22"   "20.99"   "4.5"
##                    "0.224"  "380"  "375.62"  "19.561"
##                    "0.223"  "9"    "8.32"    "3.048"
##                    "0.222"  "22"   "21.01"   "4.466"
##                    "0.22"   "14"   "13.15"   "3.867"
##                    "0.213"  "18"   "17.05"   "4.453"
##                    "0.212"  "11"   "10.24"   "3.582"
##                    "0.212"  "14"   "13.28"   "3.391"
##                    "0.211"  "11"   "10.34"   "3.121"
```

```
##                  "0.21"    "1"     "0.79"    "0.795"
##                  "0.21"    "4"     "3.6"     "1.902"
##                  "0.21"    "1"     "0.79"    "0.844"
##                  "0.21"    "1"     "0.79"    "0.924"
##                  "0.21"    "1"     "0.79"    "0.935"
##                  "0.21"    "1"     "0.79"    "0.808"
##                  "0.21"    "1"     "0.79"    "0.88"
##                  "0.209"   "3"     "2.65"    "1.678"
##                  "0.209"   "2"     "1.74"    "1.244"
##                  "0.208"   "4"     "3.62"    "1.83"
##                  "0.208"   "4"     "3.62"    "1.83"
##                  "0.208"   "84"    "82.34"   "7.991"
##                  "0.204"   "2"     "1.74"    "1.276"
##                  "0.203"   "4"     "3.65"    "1.725"
##                  "0.202"   "14"    "13.29"   "3.511"
##                  "0.2"     "1"     "0.8"     "0.876"
##                  "0.2"     "1"     "0.8"     "0.791"
##                  "0.2"     "1"     "0.8"     "0.876"
##                  "0.2"     "1"     "0.8"     "0.876"
##                  "0.2"     "1"     "0.8"     "0.943"
##                  "0.2"     "1"     "0.8"     "0.91"
##                  "0.2"     "1"     "0.8"     "0.876"
##                  "0.2"     "1"     "0.8"     "0.876"
##                  "0.196"   "4"     "3.63"    "1.889"
##                  "0.196"   "6"     "5.56"    "2.244"
##                  "0.195"   "30"    "28.92"   "5.539"
##                  "0.195"   "5"     "4.61"    "2.005"
##                  "0.191"   "15"    "14.28"   "3.771"
##                  "0.188"   "4"     "3.67"    "1.758"
##                  "0.188"   "3"     "2.7"     "1.592"
##                  "0.187"   "2"     "1.76"    "1.28"
##                  "0.184"   "12"    "11.48"   "2.819"
##                  "0.18"    "1"     "0.82"    "0.925"
##                  "0.178"   "22"    "21.31"   "3.876"
##                  "0.178"   "2"     "1.78"    "1.236"
##                  "0.175"   "2"     "1.79"    "1.2"
##                  "0.175"   "2"     "1.79"    "1.2"
##                  "0.174"   "54"    "52.8"    "6.912"
##                  "0.171"   "30"    "29.11"   "5.209"
##                  "0.17"    "1"     "0.83"    "0.954"
##                  "0.17"    "1"     "0.83"    "0.829"
##                  "0.17"    "76"    "74.52"   "8.731"
##                  "0.168"   "17"    "16.3"    "4.177"
##                  "0.167"   "105"   "103.22"  "10.656"
##                  "0.167"   "16"    "15.33"   "4"
##                  "0.166"   "7"     "6.62"    "2.295"
##                  "0.166"   "37"    "35.97"   "6.188"
##                  "0.166"   "6"     "5.65"    "2.11"
##                  "0.161"   "9"     "8.54"    "2.855"
##                  "0.16"    "1"     "0.84"    "0.929"
##                  "0.159"   "12"    "11.52"   "3.023"
##                  "0.158"   "3"     "2.72"    "1.77"
##                  "0.156"   "24"    "23.28"   "4.621"
##                  "0.152"   "8"     "7.6"     "2.629"
```

```
##                      "0.15"   "1"     "0.85"    "0.88"
##                      "0.146"  "16"    "15.44"   "3.836"
##                      "0.145"  "2"     "1.8"     "1.378"
##                      "0.144"  "6"     "5.64"    "2.501"
##                      "0.143"  "2"     "1.8"     "1.4"
##                      "0.14"   "1"     "0.86"    "0.853"
##                      "0.14"   "1"     "0.86"    "0.954"
##                      "0.14"   "1"     "0.86"    "0.921"
##                      "0.14"   "1"     "0.86"    "0.954"
##                      "0.14"   "1"     "0.86"    "0.954"
##                      "0.14"   "3"     "2.76"    "1.712"
##                      "0.14"   "1"     "0.86"    "0.954"
##                      "0.139"  "1"     "0.86"    "1.005"
##                      "0.139"  "46"    "45.12"   "6.343"
##                      "0.138"  "23"    "22.36"   "4.64"
##                      "0.138"  "6"     "5.7"     "2.177"
##                      "0.136"  "4"     "3.73"    "1.984"
##                      "0.134"  "7"     "6.65"    "2.603"
##                      "0.132"  "3"     "2.78"    "1.667"
##                      "0.131"  "4"     "3.78"    "1.685"
##                      "0.131"  "4"     "3.78"    "1.685"
##                      "0.131"  "4"     "3.78"    "1.685"
##                      "0.13"   "1"     "0.87"    "0.928"
##                      "0.13"   "1"     "0.87"    "0.928"
##                      "0.129"  "20"    "19.44"   "4.347"
##                      "0.126"  "22"    "21.48"   "4.126"
##                      "0.126"  "20"    "19.44"   "4.452"
##                      "0.126"  "15"    "14.5"    "3.968"
##                      "0.126"  "13"    "12.58"   "3.337"
##                      "0.125"  "5"     "4.75"    "1.997"
##                      "0.12"   "29"    "28.42"   "4.818"
##                      "0.119"  "22"    "21.48"   "4.382"
##                      "0.119"  "15"    "14.56"   "3.702"
##                      "0.119"  "3"     "2.82"    "1.507"
##                      "0.116"  "4"     "3.78"    "1.905"
##                      "0.115"  "1"     "0.88"    "1.047"
##                      "0.115"  "3"     "2.81"    "1.65"
##                      "0.115"  "1"     "0.88"    "1.047"
##                      "0.11"   "1"     "0.89"    "0.973"
##                      "0.11"   "1"     "0.89"    "0.92"
##                      "0.106"  "2"     "1.87"    "1.228"
##                      "0.106"  "6"     "5.76"    "2.261"
##                      "0.104"  "20"    "19.55"   "4.317"
##                      "0.103"  "3"     "2.79"    "2.041"
##                      "0.103"  "5"     "4.78"    "2.13"
##                      "0.103"  "6"     "5.79"    "2.037"
##                      "0.103"  "3"     "2.79"    "2.041"
##                      "0.103"  "3"     "2.79"    "2.041"
##                      "0.101"  "125"   "123.88"  "11.109"
##                      "0.101"  "62"    "61.22"   "7.705"
##                      "0.099"  "16"    "15.6"    "4.04"
##                      "0.098"  "46"    "45.44"   "5.734"
##                      "0.097"  "2"     "1.87"    "1.338"
##                      "0.094"  "3"     "2.85"    "1.598"
```

```
##                     "0.092"  "2"    "1.87"    "1.412"
##                     "0.091"  "4"    "3.85"    "1.648"
##                     "0.09"   "1"    "0.91"    "0.965"
##                     "0.09"   "12"   "11.66"   "3.764"
##                     "0.089"  "63"   "62.35"   "7.265"
##                     "0.089"  "1"    "0.91"    "1.006"
##                     "0.089"  "1"    "0.91"    "1.006"
##                     "0.084"  "6"    "5.8"     "2.374"
##                     "0.083"  "64"   "63.44"   "6.742"
##                     "0.083"  "12"   "11.72"   "3.373"
##                     "0.083"  "10"   "9.78"    "2.654"
##                     "0.083"  "2"    "1.88"    "1.451"
##                     "0.082"  "3"    "2.87"    "1.587"
##                     "0.082"  "23"   "22.66"   "4.147"
##                     "0.082"  "3"    "2.85"    "1.839"
##                     "0.082"  "3"    "2.87"    "1.587"
##                     "0.082"  "3"    "2.87"    "1.587"
##                     "0.082"  "3"    "2.87"    "1.587"
##                     "0.082"  "3"    "2.87"    "1.587"
##                     "0.081"  "4"    "3.85"    "1.861"
##                     "0.08"   "1"    "0.92"    "0.929"
##                     "0.08"   "1"    "0.92"    "0.961"
##                     "0.08"   "1"    "0.92"    "0.895"
##                     "0.08"   "1"    "0.92"    "0.929"
##                     "0.079"  "2"    "1.9"     "1.259"
##                     "0.078"  "3"    "2.88"    "1.546"
##                     "0.077"  "2"    "1.89"    "1.435"
##                     "0.074"  "9"    "8.77"    "3.12"
##                     "0.072"  "5"    "4.85"    "2.091"
##                     "0.07"   "2"    "1.91"    "1.288"
##                     "0.07"   "32"   "31.67"   "4.701"
##                     "0.069"  "31"   "30.63"   "5.331"
##                     "0.065"  "32"   "31.64"   "5.571"
##                     "0.065"  "9"    "8.8"     "3.091"
##                     "0.064"  "48"   "47.59"   "6.436"
##                     "0.063"  "5"    "4.86"    "2.216"
##                     "0.063"  "5"    "4.86"    "2.216"
##                     "0.063"  "29"   "28.67"   "5.271"
##                     "0.063"  "3"    "2.89"    "1.734"
##                     "0.062"  "11"   "10.81"   "3.047"
##                     "0.06"   "1"    "0.94"    "0.93"
##                     "0.06"   "2"    "1.92"    "1.331"
##                     "0.06"   "1"    "0.94"    "0.839"
##                     "0.06"   "1"    "0.94"    "0.886"
##                     "0.059"  "2"    "1.92"    "1.346"
##                     "0.056"  "8"    "7.84"    "2.859"
##                     "0.055"  "3"    "2.92"    "1.461"
##                     "0.055"  "35"   "34.72"   "5.115"
##                     "0.053"  "15"   "14.8"    "3.763"
##                     "0.052"  "42"   "41.66"   "6.542"
##                     "0.05"   "1"    "0.95"    "0.892"
##                     "0.049"  "66"   "65.65"   "7.072"
##                     "0.047"  "4"    "3.9"     "2.134"
##                     "0.046"  "119"  "118.48"  "11.294"
```

```
##                      "0.046"  "41"   "40.71"  "6.362"
##                      "0.045"  "2"    "1.94"   "1.347"
##                      "0.045"  "2"    "1.94"   "1.347"
##                      "0.044"  "2"    "1.94"   "1.362"
##                      "0.044"  "2"    "1.94"   "1.362"
##                      "0.044"  "2"    "1.94"   "1.362"
##                      "0.041"  "16"   "15.85"  "3.702"
##                      "0.04"   "1"    "0.96"   "0.909"
##                      "0.04"   "1"    "0.96"   "0.942"
##                      "0.039"  "4"    "3.93"   "1.805"
##                      "0.039"  "46"   "45.75"  "6.389"
##                      "0.036"  "22"   "21.84"  "4.408"
##                      "0.032"  "4"    "3.93"   "2.189"
##                      "0.03"   "1"    "0.97"   "0.937"
##                      "0.03"   "1"    "0.97"   "0.926"
##                      "0.028"  "4"    "3.94"   "2.164"
##                      "0.028"  "1"    "0.97"   "1.068"
##                      "0.027"  "14"   "13.89"  "4.085"
##                      "0.026"  "3"    "2.96"   "1.51"
##                      "0.024"  "4"    "3.95"   "2.047"
##                      "0.024"  "5"    "4.95"   "2.091"
##                      "0.023"  "14"   "13.91"  "3.995"
##                      "0.023"  "3"    "2.96"   "1.752"
##                      "0.023"  "3"    "2.96"   "1.752"
##                      "0.021"  "5"    "4.95"   "2.376"
##                      "0.021"  "4"    "3.96"   "1.933"
##                      "0.02"   "1"    "0.98"   "0.887"
##                      "0.02"   "1"    "0.98"   "0.887"
##                      "0.02"   "1"    "0.98"   "0.932"
##                      "0.02"   "1"    "0.98"   "0.887"
##                      "0.02"   "1"    "0.98"   "0.974"
##                      "0.02"   "18"   "17.93"  "3.557"
##                      "0.02"   "1"    "0.98"   "0.887"
##                      "0.02"   "1"    "0.98"   "0.932"
##                      "0.018"  "4"    "3.97"   "1.708"
##                      "0.018"  "41"   "40.89"  "6.105"
##                      "0.015"  "4"    "3.97"   "2.062"
##                      "0.015"  "4"    "3.97"   "2.067"
##                      "0.01"   "1"    "0.99"   "1.01"
##                      "0.01"   "1"    "0.99"   "1.04"
##                      "0.01"   "1"    "0.99"   "1.03"
##                      "0.01"   "1"    "0.99"   "1.04"
##                      "0.009"  "76"   "75.94"  "6.88"
##                      "0.007"  "2"    "1.99"   "1.534"
##                      "0.007"  "2"    "1.99"   "1.439"
##                      "0"      "0"    "0"      "0"
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##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
```

```
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##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
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##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
##                      "0"      "0"      "0"      "0"
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```

```
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```

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```

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##                       "0"     "0"    "0"      "0"
##                       "0"     "0"    "0"      "0"
##                       "0"     "0"    "0"      "0"
##                       "0"     "0"    "0"      "0"
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##                       "0"     "0"    "0"      "0"
##                       "0"     "0"    "0"      "0"
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##                       "0"     "0"    "0"      "0"
##                       "0"     "2"    "2"      "1.348"
##                       "0"     "0"    "0"      "0"
##                       "0"     "0"    "0"      "0"
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##                       "0"     "0"    "0"      "0"
##                       "0"     "0"    "0"      "0"
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##                       "0"     "0"    "0"      "0"
##                       "0"     "0"    "0"      "0"
```

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##                    "0"     "0"     "0"      "0"
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##                    "0"     "0"     "0"      "0"
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##                    "0"     "0"     "0"      "0"
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##                    "0"     "0"     "0"      "0"
##                    "0"     "0"     "0"      "0"
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##                    "0"     "0"     "0"      "0"
##                    "0"     "0"     "0"      "0"
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##                    "0"     "0"     "0"      "0"
##                    "0"     "0"     "0"      "0"
##                    "0"     "0"     "0"      "0"
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##                    "0"     "0"     "0"      "0"
##                    "0"     "0"     "0"      "0"
##                    "0"     "0"     "0"      "0"
##                    "0"     "0"     "0"      "0"
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##                    "-0.005" "65"    "65.04"  "7.964"
##                    "-0.005" "16"    "16.02"  "3.723"
##                    "-0.005" "6"     "6.01"   "2.177"
##                    "-0.005" "5"     "5.01"   "2.115"
```

505

```
##                     "-0.007"  "21"   "21.03"  "4.491"
##                     "-0.009"  "1"    "1.01"   "1.059"
##                     "-0.009"  "1"    "1.01"   "1.059"
##                     "-0.009"  "1"    "1.01"   "1.059"
##                     "-0.01"   "0"    "0.01"   "0.1"
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##                     "-0.01"   "10"   "10.03"  "3.06"
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##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
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##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
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##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
##                     "-0.01"   "0"    "0.01"   "0.1"
```

```
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##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
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##                        "-0.01"   "0"   "0.01"   "0.1"
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##                        "-0.01"   "0"   "0.01"   "0.1"
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##                        "-0.01"   "0"   "0.01"   "0.1"
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##                        "-0.01"   "0"   "0.01"   "0.1"
##                        "-0.01"   "0"   "0.01"   "0.1"
```

```
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##                      "-0.01"   "0"    "0.01"    "0.1"
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##                      "-0.011"  "4"    "4.02"    "1.869"
##                      "-0.012"  "31"   "31.06"   "5.003"
##                      "-0.014"  "2"    "2.02"    "1.421"
##                      "-0.014"  "5"    "5.03"    "2.148"
##                      "-0.018"  "1"    "1.02"    "1.092"
##                      "-0.018"  "1"    "1.02"    "1.092"
##                      "-0.018"  "33"   "33.11"   "6.017"
##                      "-0.019"  "27"   "27.09"   "4.727"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
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##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
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##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "1"    "1.02"    "0.995"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "1"    "1.02"    "0.921"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
```

```
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.02"  "0"     "0.02"    "0.141"
##                    "-0.022" "2"     "2.03"    "1.381"
##                    "-0.022" "2"     "2.03"    "1.359"
##                    "-0.022" "4"     "4.04"    "1.836"
##                    "-0.022" "36"    "36.13"   "5.925"
##                    "-0.024" "6"     "6.07"    "2.868"
##                    "-0.024" "198"   "198.32"  "13.545"
##                    "-0.024" "2"     "2.03"    "1.267"
##                    "-0.024" "6"     "6.06"    "2.534"
##                    "-0.025" "12"    "12.09"   "3.554"
##                    "-0.025" "4"     "4.05"    "1.961"
##                    "-0.028" "89"    "89.26"   "9.217"
##                    "-0.028" "9"     "9.08"    "2.824"
##                    "-0.028" "2"     "2.04"    "1.449"
##                    "-0.03"  "0"     "0.03"    "0.171"
##                    "-0.03"  "0"     "0.03"    "0.171"
##                    "-0.03"  "0"     "0.03"    "0.171"
##                    "-0.03"  "0"     "0.03"    "0.171"
##                    "-0.03"  "0"     "0.03"    "0.171"
```

```
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "5"   "5.07"   "2.362"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.223"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
##                   "-0.03"  "0"   "0.03"   "0.171"
```

```
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "1"    "1.03"    "0.958"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.03"   "0"    "0.03"    "0.171"
##                 "-0.031"  "8"    "8.09"    "2.937"
##                 "-0.032"  "3"    "3.06"    "1.89"
##                 "-0.036"  "173"  "173.41"  "11.521"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.243"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "1"    "1.04"    "0.994"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
##                 "-0.04"   "0"    "0.04"    "0.197"
```

```
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "1"    "1.04"    "0.963"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.04"   "0"    "0.04"    "0.197"
##                      "-0.041"  "2"    "2.06"    "1.448"
##                      "-0.043"  "2"    "2.06"    "1.406"
##                      "-0.043"  "11"   "11.15"   "3.454"
##                      "-0.043"  "2"    "2.06"    "1.391"
##                      "-0.049"  "4"    "4.1"     "2.052"
##                      "-0.049"  "1"    "1.05"    "1.019"
##                      "-0.049"  "7"    "7.12"    "2.467"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
##                      "-0.05"   "0"    "0.05"    "0.219"
```

```
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.261"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.261"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.05"   "0"     "0.05"    "0.219"
##                        "-0.051"  "46"    "46.34"   "6.715"
##                        "-0.051"  "2"     "2.08"    "1.555"
##                        "-0.052"  "26"    "26.23"   "4.458"
##                        "-0.055"  "2"     "2.08"    "1.447"
##                        "-0.055"  "35"    "35.32"   "5.772"
##                        "-0.056"  "36"    "36.34"   "6.097"
##                        "-0.057"  "27"    "27.3"    "5.246"
##                        "-0.057"  "18"    "18.22"   "3.855"
##                        "-0.057"  "11"    "11.18"   "3.144"
##                        "-0.058"  "35"    "35.32"   "5.55"
##                        "-0.058"  "10"    "10.17"   "2.941"
##                        "-0.059"  "30"    "30.33"   "5.565"
##                        "-0.06"   "0"     "0.06"    "0.239"
##                        "-0.06"   "0"     "0.06"    "0.239"
```

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```
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.278"
##                     "-0.06"   "0"     "0.06"     "0.278"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "1"     "1.06"     "0.993"
##                     "-0.06"   "0"     "0.06"     "0.278"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "1"     "1.06"     "0.993"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "1"     "1.06"     "0.973"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.278"
##                     "-0.06"   "0"     "0.06"     "0.278"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.06"   "0"     "0.06"     "0.239"
##                     "-0.062"  "35"    "35.34"    "5.511"
##                     "-0.063"  "1"     "1.07"     "1.103"
##                     "-0.064"  "24"    "24.3"     "4.659"
##                     "-0.064"  "159"   "159.9"    "14.098"
##                     "-0.066"  "41"    "41.46"    "6.956"
##                     "-0.066"  "37"    "37.4"     "6.072"
##                     "-0.067"  "5"     "5.14"     "2.103"
##                     "-0.067"  "1"     "1.07"     "1.047"
##                     "-0.067"  "4"     "4.14"     "2.089"
##                     "-0.068"  "97"    "97.58"    "8.488"
##                     "-0.069"  "327"   "328.22"   "17.646"
##                     "-0.07"   "0"     "0.07"     "0.256"
##                     "-0.07"   "0"     "0.07"     "0.256"
##                     "-0.07"   "0"     "0.07"     "0.256"
##                     "-0.07"   "0"     "0.07"     "0.256"
```

```
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.293"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.293"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.293"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.293"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.293"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.07" "0" "0.07" "0.256"
## "-0.073" "2" "2.11" "1.497"
## "-0.075" "2" "2.1" "1.337"
## "-0.075" "2" "2.1" "1.337"
## "-0.076" "3" "3.13" "1.715"
## "-0.077" "1" "1.08" "1.041"
## "-0.08" "0" "0.08" "0.273"
## "-0.08" "0" "0.08" "0.273"
## "-0.08" "0" "0.08" "0.307"
## "-0.08" "0" "0.08" "0.273"
## "-0.08" "0" "0.08" "0.273"
## "-0.08" "0" "0.08" "0.273"
## "-0.08" "0" "0.08" "0.307"
## "-0.08" "0" "0.08" "0.273"
## "-0.08" "0" "0.08" "0.273"
## "-0.08" "0" "0.08" "0.273"
```

```
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "56"    "56.58"   "7.21"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "1"     "1.09"    "1.129"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.307"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.08"   "0"     "0.08"    "0.273"
##                 "-0.081"  "2"     "2.12"    "1.486"
##                 "-0.082"  "38"    "38.51"   "6.245"
##                 "-0.082"  "3"     "3.14"    "1.718"
##                 "-0.083"  "395"   "397.09"  "25.198"
##                 "-0.086"  "79"    "79.61"   "7.088"
##                 "-0.086"  "1"     "1.1"     "1.159"
##                 "-0.09"   "0"     "0.09"    "0.288"
##                 "-0.09"   "0"     "0.09"    "0.321"
```

```
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "87"    "87.89"    "9.872"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "17"    "17.35"    "3.896"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.288"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.09"   "0"     "0.09"     "0.321"
##                    "-0.091"  "6"     "6.22"     "2.419"
##                    "-0.091"  "18"    "18.36"    "3.971"
##                    "-0.091"  "6"     "6.22"     "2.41"
##                    "-0.092"  "105"   "105.97"   "10.595"
##                    "-0.097"  "26"    "26.41"    "4.209"
##                    "-0.098"  "1"     "1.11"     "1.118"
##                    "-0.099"  "7"     "7.25"     "2.528"
##                    "-0.099"  "2"     "2.15"     "1.513"
##                    "-0.1"    "0"     "0.1"      "0.302"
##                    "-0.1"    "0"     "0.1"      "0.302"
##                    "-0.1"    "0"     "0.1"      "0.302"
##                    "-0.1"    "0"     "0.1"      "0.302"
##                    "-0.1"    "0"     "0.1"      "0.302"
##                    "-0.1"    "0"     "0.1"      "0.302"
```

```
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.389"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "1"     "1.1"     "0.969"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "24"    "24.43"   "4.298"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.1"    "0"     "0.1"     "0.389"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.302"
##                   "-0.1"    "0"     "0.1"     "0.333"
##                   "-0.102"  "23"    "23.51"   "5.006"
##                   "-0.103"  "37"    "37.62"   "6.045"
##                   "-0.103"  "3"     "3.16"    "1.549"
##                   "-0.103"  "3"     "3.16"    "1.549"
##                   "-0.103"  "3"     "3.16"    "1.549"
##                   "-0.103"  "3"     "3.16"    "1.549"
##                   "-0.103"  "3"     "3.16"    "1.549"
##                   "-0.103"  "3"     "3.16"    "1.549"
##                   "-0.103"  "3"     "3.16"    "1.549"
##                   "-0.104"  "2"     "2.13"    "1.253"
##                   "-0.104"  "2"     "2.15"    "1.445"
##                   "-0.106"  "9"     "9.31"    "2.933"
##                   "-0.109"  "1"     "1.12"    "1.104"
##                   "-0.109"  "136"   "137.35"  "12.373"
##                   "-0.11"   "0"     "0.11"    "0.314"
##                   "-0.11"   "0"     "0.11"    "0.314"
##                   "-0.11"   "0"     "0.11"    "0.373"
##                   "-0.11"   "0"     "0.11"    "0.345"
##                   "-0.11"   "0"     "0.11"    "0.345"
##                   "-0.11"   "0"     "0.11"    "0.345"
##                   "-0.11"   "0"     "0.11"    "0.314"
##                   "-0.11"   "0"     "0.11"    "0.345"
##                   "-0.11"   "0"     "0.11"    "0.345"
##                   "-0.11"   "0"     "0.11"    "0.314"
##                   "-0.11"   "0"     "0.11"    "0.314"
##                   "-0.11"   "0"     "0.11"    "0.345"
```

```
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.373"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "1"    "1.11"    "0.92"
##                      "-0.11"    "0"    "0.11"    "0.399"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.373"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.345"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "22"   "22.56"   "5.07"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.11"    "0"    "0.11"    "0.314"
##                      "-0.111"   "2"    "2.16"    "1.441"
##                      "-0.115"   "1"    "1.12"    "1.047"
##                      "-0.115"   "1"    "1.12"    "1.047"
##                      "-0.116"   "1"    "1.12"    "1.037"
##                      "-0.12"    "0"    "0.12"    "0.409"
##                      "-0.12"    "0"    "0.12"    "0.356"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.409"
##                      "-0.12"    "2"    "2.15"    "1.25"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.356"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.356"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.327"
##                      "-0.12"    "0"    "0.12"    "0.409"
```

```
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "1"    "1.12"    "0.956"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.121"  "59"   "60.01"   "8.348"
##                     "-0.122"  "3"    "3.21"    "1.719"
##                     "-0.122"  "57"   "57.92"   "7.518"
##                     "-0.123"  "6"    "6.31"    "2.529"
##                     "-0.126"  "4"    "4.26"    "2.063"
##                     "-0.127"  "2"    "2.18"    "1.417"
##                     "-0.129"  "3"    "3.23"    "1.78"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "11"   "11.46"   "3.54"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "15"   "15.48"   "3.705"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.338"
```

```
##                    "-0.13"   "0"    "0.13"   "0.338"
##                    "-0.13"   "0"    "0.13"   "0.367"
##                    "-0.13"   "0"    "0.13"   "0.393"
##                    "-0.131"  "84"   "85.22"  "9.307"
##                    "-0.131"  "33"   "33.8"   "6.105"
##                    "-0.131"  "41"   "41.75"  "5.743"
##                    "-0.132"  "2"    "2.2"    "1.511"
##                    "-0.133"  "15"   "15.54"  "4.066"
##                    "-0.134"  "23"   "23.67"  "5.005"
##                    "-0.138"  "2"    "2.21"   "1.52"
##                    "-0.138"  "2"    "2.21"   "1.52"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "2"    "2.2"    "1.428"
##                    "-0.14"   "0"    "0.14"   "0.403"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.403"
##                    "-0.14"   "0"    "0.14"   "0.403"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.403"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.403"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.403"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.349"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
##                    "-0.14"   "0"    "0.14"   "0.377"
```

```
##                    "-0.14"   "0"     "0.14"    "0.377"
##                    "-0.14"   "0"     "0.14"    "0.349"
##                    "-0.141"  "16"    "16.54"   "3.841"
##                    "-0.144"  "1"     "1.15"    "1.038"
##                    "-0.144"  "3"     "3.22"    "1.528"
##                    "-0.147"  "5"     "5.31"    "2.112"
##                    "-0.15"   "0"     "0.15"    "0.386"
##                    "-0.15"   "31"    "31.84"   "5.606"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.386"
##                    "-0.15"   "0"     "0.15"    "0.411"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.386"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.411"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.435"
##                    "-0.15"   "0"     "0.15"    "0.386"
##                    "-0.15"   "0"     "0.15"    "0.411"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.458"
##                    "-0.15"   "0"     "0.15"    "0.411"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.386"
##                    "-0.15"   "0"     "0.15"    "0.411"
##                    "-0.15"   "0"     "0.15"    "0.435"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "1"     "1.15"    "0.999"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.411"
##                    "-0.15"   "0"     "0.15"    "0.411"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.411"
##                    "-0.15"   "0"     "0.15"    "0.386"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.15"   "0"     "0.15"    "0.359"
##                    "-0.154"  "36"    "36.85"   "5.518"
##                    "-0.154"  "61"    "62.12"   "7.269"
##                    "-0.155"  "4"     "4.32"    "2.064"
##                    "-0.157"  "1"     "1.17"    "1.083"
##                    "-0.158"  "1"     "1.18"    "1.14"
##                    "-0.158"  "1"     "1.18"    "1.14"
##                    "-0.159"  "9"     "9.5"     "3.154"
##                    "-0.16"   "0"     "0.16"    "0.368"
##                    "-0.16"   "0"     "0.16"    "0.368"
##                    "-0.16"   "0"     "0.16"    "0.443"
##                    "-0.16"   "0"     "0.16"    "0.368"
##                    "-0.16"   "0"     "0.16"    "0.368"
```

```
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.42"
##                     "-0.16"   "0"      "0.16"    "0.465"
##                     "-0.16"   "0"      "0.16"    "0.465"
##                     "-0.16"   "0"      "0.16"    "0.42"
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.443"
##                     "-0.16"   "0"      "0.16"    "0.368"
##                     "-0.16"   "0"      "0.16"    "0.368"
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.42"
##                     "-0.16"   "0"      "0.16"    "0.368"
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.368"
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.443"
##                     "-0.16"   "0"      "0.16"    "0.42"
##                     "-0.16"   "0"      "0.16"    "0.465"
##                     "-0.16"   "0"      "0.16"    "0.42"
##                     "-0.16"   "0"      "0.16"    "0.42"
##                     "-0.16"   "0"      "0.16"    "0.368"
##                     "-0.16"   "0"      "0.16"    "0.368"
##                     "-0.16"   "0"      "0.16"    "0.42"
##                     "-0.16"   "0"      "0.16"    "0.395"
##                     "-0.16"   "0"      "0.16"    "0.368"
##                     "-0.16"   "0"      "0.16"    "0.42"
##                     "-0.161"  "54"     "55.09"   "6.766"
##                     "-0.162"  "2"      "2.21"    "1.297"
##                     "-0.162"  "2"      "2.24"    "1.485"
##                     "-0.164"  "95"     "96.32"   "8.046"
##                     "-0.164"  "160"    "161.81"  "11.037"
##                     "-0.165"  "52"     "53.03"   "6.237"
##                     "-0.166"  "12"     "12.59"   "3.548"
##                     "-0.167"  "1"      "1.19"    "1.134"
##                     "-0.167"  "110"    "111.87"  "11.173"
##                     "-0.167"  "1"      "1.18"    "1.077"
##                     "-0.167"  "1"      "1.18"    "1.077"
##                     "-0.169"  "29"     "29.79"   "4.672"
##                     "-0.169"  "64"     "65.19"   "7.043"
##                     "-0.169"  "1"      "1.19"    "1.125"
##                     "-0.17"   "59"     "60.21"   "7.134"
##                     "-0.17"   "0"      "0.17"    "0.403"
##                     "-0.17"   "0"      "0.17"    "0.378"
##                     "-0.17"   "0"      "0.17"    "0.378"
##                     "-0.17"   "0"      "0.17"    "0.428"
##                     "-0.17"   "0"      "0.17"    "0.451"
##                     "-0.17"   "0"      "0.17"    "0.378"
##                     "-0.17"   "0"      "0.17"    "0.428"
##                     "-0.17"   "0"      "0.17"    "0.403"
##                     "-0.17"   "0"      "0.17"    "0.378"
##                     "-0.17"   "0"      "0.17"    "0.428"
```

```
##                     "-0.17"   "0"    "0.17"    "0.428"
##                     "-0.17"   "0"    "0.17"    "0.428"
##                     "-0.17"   "0"    "0.17"    "0.428"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.17"   "0"    "0.17"    "0.378"
##                     "-0.17"   "46"   "47.24"   "7.303"
##                     "-0.17"   "0"    "0.17"    "0.378"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.17"   "0"    "0.17"    "0.451"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.17"   "0"    "0.17"    "0.473"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.17"   "0"    "0.17"    "0.428"
##                     "-0.17"   "0"    "0.17"    "0.378"
##                     "-0.17"   "0"    "0.17"    "0.378"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.17"   "0"    "0.17"    "0.378"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.17"   "0"    "0.17"    "0.428"
##                     "-0.17"   "0"    "0.17"    "0.428"
##                     "-0.17"   "0"    "0.17"    "0.428"
##                     "-0.17"   "0"    "0.17"    "0.428"
##                     "-0.17"   "0"    "0.17"    "0.403"
##                     "-0.171"  "12"   "12.58"   "3.391"
##                     "-0.173"  "3"    "3.29"    "1.678"
##                     "-0.173"  "3"    "3.3"     "1.732"
##                     "-0.174"  "5"    "5.38"    "2.182"
##                     "-0.175"  "9"    "9.49"    "2.801"
##                     "-0.176"  "10"   "10.55"   "3.131"
##                     "-0.178"  "4"    "4.33"    "1.859"
##                     "-0.178"  "4"    "4.33"    "1.859"
##                     "-0.178"  "43"   "44.22"   "6.845"
##                     "-0.18"   "0"    "0.18"    "0.435"
##                     "-0.18"   "0"    "0.18"    "0.411"
##                     "-0.18"   "0"    "0.18"    "0.386"
##                     "-0.18"   "0"    "0.18"    "0.458"
##                     "-0.18"   "0"    "0.18"    "0.411"
##                     "-0.18"   "0"    "0.18"    "0.479"
##                     "-0.18"   "0"    "0.18"    "0.435"
##                     "-0.18"   "0"    "0.18"    "0.435"
##                     "-0.18"   "0"    "0.18"    "0.411"
##                     "-0.18"   "0"    "0.18"    "0.435"
##                     "-0.18"   "0"    "0.18"    "0.435"
##                     "-0.18"   "0"    "0.18"    "0.411"
##                     "-0.18"   "0"    "0.18"    "0.411"
##                     "-0.18"   "0"    "0.18"    "0.435"
##                     "-0.18"   "0"    "0.18"    "0.435"
##                     "-0.18"   "0"    "0.18"    "0.435"
##                     "-0.18"   "1"    "1.18"    "0.869"
##                     "-0.18"   "0"    "0.18"    "0.386"
##                     "-0.18"   "0"    "0.18"    "0.479"
##                     "-0.18"   "0"    "0.18"    "0.458"
```

```
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.386"
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.458"
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.411"
##                     "-0.18"   "0"    "0.18"   "0.411"
##                     "-0.18"   "0"    "0.18"   "0.458"
##                     "-0.18"   "0"    "0.18"   "0.411"
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.411"
##                     "-0.18"   "0"    "0.18"   "0.386"
##                     "-0.18"   "0"    "0.18"   "0.386"
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.411"
##                     "-0.18"   "0"    "0.18"   "0.411"
##                     "-0.18"   "0"    "0.18"   "0.386"
##                     "-0.18"   "0"    "0.18"   "0.435"
##                     "-0.18"   "0"    "0.18"   "0.411"
##                     "-0.184"  "10"   "10.56"  "3.049"
##                     "-0.189"  "23"   "23.95"  "5.018"
##                     "-0.19"   "0"    "0.19"   "0.465"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.506"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.465"
##                     "-0.19"   "0"    "0.19"   "0.419"
##                     "-0.19"   "0"    "0.19"   "0.419"
##                     "-0.19"   "0"    "0.19"   "0.419"
##                     "-0.19"   "0"    "0.19"   "0.419"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.419"
##                     "-0.19"   "0"    "0.19"   "0.419"
##                     "-0.19"   "0"    "0.19"   "0.465"
##                     "-0.19"   "0"    "0.19"   "0.419"
##                     "-0.19"   "0"    "0.19"   "0.443"
##                     "-0.19"   "0"    "0.19"   "0.443"
##                     "-0.19"   "0"    "0.19"   "0.486"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.486"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.394"
##                     "-0.19"   "0"    "0.19"   "0.465"
##                     "-0.19"   "0"    "0.19"   "0.486"
##                     "-0.191"  "68"   "69.66"  "8.682"
##                     "-0.193"  "11"   "11.65"  "3.368"
##                     "-0.194"  "12"   "12.79"  "4.078"
##                     "-0.195"  "31"   "32.1"   "5.633"
```

```
##                        "-0.195"  "22"  "22.86"  "4.402"
##                        "-0.196"  "19"  "19.9"   "4.591"
##                        "-0.198"  "13"  "13.73"  "3.684"
##                        "-0.2"    "0"   "0.2"    "0.426"
##                        "-0.2"    "0"   "0.2"    "0.426"
##                        "-0.2"    "0"   "0.2"    "0.426"
##                        "-0.2"    "0"   "0.2"    "0.426"
##                        "-0.2"    "0"   "0.2"    "0.449"
##                        "-0.2"    "0"   "0.2"    "0.426"
##                        "-0.2"    "15"  "15.85"  "4.251"
##                        "-0.2"    "0"   "0.2"    "0.449"
##                        "-0.2"    "0"   "0.2"    "0.426"
##                        "-0.2"    "0"   "0.2"    "0.449"
##                        "-0.2"    "6"   "6.5"    "2.501"
##                        "-0.2"    "0"   "0.2"    "0.471"
##                        "-0.2"    "0"   "0.2"    "0.402"
##                        "-0.2"    "0"   "0.2"    "0.426"
##                        "-0.2"    "0"   "0.2"    "0.426"
##                        "-0.2"    "0"   "0.2"    "0.402"
##                        "-0.2"    "0"   "0.2"    "0.492"
##                        "-0.2"    "0"   "0.2"    "0.471"
##                        "-0.201"  "1"   "1.22"   "1.097"
##                        "-0.202"  "19"  "19.84"  "4.165"
##                        "-0.203"  "11"  "11.63"  "3.097"
##                        "-0.203"  "8"   "8.48"   "2.363"
##                        "-0.203"  "2"   "2.29"   "1.431"
##                        "-0.204"  "1"   "1.21"   "1.028"
##                        "-0.204"  "1"   "1.21"   "1.028"
##                        "-0.204"  "1"   "1.21"   "1.028"
##                        "-0.206"  "1"   "1.22"   "1.069"
##                        "-0.207"  "40"  "41.1"   "5.325"
##                        "-0.209"  "3"   "3.4"    "1.917"
##                        "-0.21"   "0"   "0.21"   "0.456"
##                        "-0.21"   "0"   "0.21"   "0.456"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.456"
##                        "-0.21"   "0"   "0.21"   "0.409"
##                        "-0.21"   "0"   "0.21"   "0.518"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.478"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.518"
##                        "-0.21"   "0"   "0.21"   "0.456"
##                        "-0.21"   "0"   "0.21"   "0.456"
##                        "-0.21"   "0"   "0.21"   "0.456"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.478"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.433"
##                        "-0.21"   "0"   "0.21"   "0.433"
```

```
##                  "-0.21"    "0"     "0.21"     "0.518"
##                  "-0.21"    "0"     "0.21"     "0.498"
##                  "-0.21"    "0"     "0.21"     "0.498"
##                  "-0.21"    "0"     "0.21"     "0.518"
##                  "-0.21"    "0"     "0.21"     "0.518"
##                  "-0.21"    "0"     "0.21"     "0.478"
##                  "-0.21"    "0"     "0.21"     "0.409"
##                  "-0.21"    "71"    "72.68"    "8.009"
##                  "-0.213"   "25"    "25.87"    "4.084"
##                  "-0.215"   "10"    "10.65"    "3.02"
##                  "-0.215"   "29"    "30.15"    "5.344"
##                  "-0.219"   "87"    "88.78"    "8.14"
##                  "-0.22"    "2"     "2.31"     "1.412"
##                  "-0.22"    "17"    "17.86"    "3.913"
##                  "-0.22"    "0"     "0.22"     "0.484"
##                  "-0.22"    "0"     "0.22"     "0.484"
##                  "-0.22"    "0"     "0.22"     "0.484"
##                  "-0.22"    "0"     "0.22"     "0.44"
##                  "-0.22"    "0"     "0.22"     "0.484"
##                  "-0.22"    "0"     "0.22"     "0.524"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.484"
##                  "-0.22"    "0"     "0.22"     "0.561"
##                  "-0.22"    "0"     "0.22"     "0.484"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.44"
##                  "-0.22"    "0"     "0.22"     "0.44"
##                  "-0.22"    "0"     "0.22"     "0.484"
##                  "-0.22"    "0"     "0.22"     "0.44"
##                  "-0.22"    "0"     "0.22"     "0.44"
##                  "-0.22"    "0"     "0.22"     "0.44"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.44"
##                  "-0.22"    "4"     "4.47"     "2.139"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.44"
##                  "-0.22"    "0"     "0.22"     "0.484"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.462"
##                  "-0.22"    "0"     "0.22"     "0.504"
##                  "-0.222"   "4"     "4.45"     "2.027"
##                  "-0.224"   "140"   "142.62"   "11.682"
##                  "-0.225"   "8"     "8.71"     "3.15"
##                  "-0.228"   "3"     "3.4"      "1.752"
##                  "-0.228"   "28"    "29.23"    "5.395"
##                  "-0.228"   "2"     "2.35"     "1.533"
##                  "-0.23"    "0"     "0.23"     "0.489"
##                  "-0.23"    "0"     "0.23"     "0.423"
##                  "-0.23"    "0"     "0.23"     "0.423"
##                  "-0.23"    "0"     "0.23"     "0.446"
##                  "-0.23"    "0"     "0.23"     "0.489"
```

```
##                      "-0.23"   "0"     "0.23"    "0.446"
##                      "-0.23"   "0"     "0.23"    "0.468"
##                      "-0.23"   "0"     "0.23"    "0.529"
##                      "-0.23"   "0"     "0.23"    "0.51"
##                      "-0.23"   "0"     "0.23"    "0.446"
##                      "-0.23"   "0"     "0.23"    "0.446"
##                      "-0.23"   "0"     "0.23"    "0.446"
##                      "-0.23"   "0"     "0.23"    "0.446"
##                      "-0.23"   "0"     "0.23"    "0.51"
##                      "-0.23"   "0"     "0.23"    "0.468"
##                      "-0.23"   "0"     "0.23"    "0.529"
##                      "-0.23"   "0"     "0.23"    "0.423"
##                      "-0.23"   "0"     "0.23"    "0.51"
##                      "-0.23"   "0"     "0.23"    "0.468"
##                      "-0.23"   "61"    "62.63"   "7.102"
##                      "-0.23"   "0"     "0.23"    "0.548"
##                      "-0.23"   "0"     "0.23"    "0.468"
##                      "-0.23"   "0"     "0.23"    "0.446"
##                      "-0.23"   "0"     "0.23"    "0.51"
##                      "-0.23"   "0"     "0.23"    "0.468"
##                      "-0.23"   "0"     "0.23"    "0.468"
##                      "-0.23"   "0"     "0.23"    "0.529"
##                      "-0.23"   "0"     "0.23"    "0.529"
##                      "-0.23"   "0"     "0.23"    "0.468"
##                      "-0.23"   "0"     "0.23"    "0.489"
##                      "-0.231"  "8"     "8.67"    "2.896"
##                      "-0.232"  "3"     "3.41"    "1.77"
##                      "-0.233"  "20"    "21.07"   "4.584"
##                      "-0.233"  "19"    "19.92"   "3.941"
##                      "-0.235"  "32"    "33.4"    "5.963"
##                      "-0.237"  "3"     "3.45"    "1.898"
##                      "-0.238"  "31"    "32.39"   "5.838"
##                      "-0.239"  "34"    "35.3"    "5.43"
##                      "-0.239"  "35"    "36.35"   "5.658"
##                      "-0.24"   "4"     "4.47"    "1.962"
##                      "-0.24"   "0"     "0.24"    "0.495"
##                      "-0.24"   "0"     "0.24"    "0.452"
##                      "-0.24"   "0"     "0.24"    "0.515"
##                      "-0.24"   "1"     "1.27"    "1.127"
##                      "-0.24"   "1"     "1.27"    "1.127"
##                      "-0.24"   "0"     "0.24"    "0.452"
##                      "-0.24"   "0"     "0.24"    "0.474"
##                      "-0.24"   "0"     "0.24"    "0.495"
##                      "-0.24"   "0"     "0.24"    "0.495"
##                      "-0.24"   "0"     "0.24"    "0.515"
##                      "-0.24"   "0"     "0.24"    "0.553"
##                      "-0.24"   "0"     "0.24"    "0.452"
##                      "-0.24"   "0"     "0.24"    "0.495"
##                      "-0.24"   "0"     "0.24"    "0.495"
##                      "-0.24"   "0"     "0.24"    "0.495"
##                      "-0.24"   "0"     "0.24"    "0.474"
##                      "-0.24"   "0"     "0.24"    "0.452"
##                      "-0.24"   "0"     "0.24"    "0.534"
##                      "-0.24"   "2"     "2.34"    "1.416"
```

```
##                     "-0.24"   "0"     "0.24"    "0.534"
##                     "-0.24"   "0"     "0.24"    "0.495"
##                     "-0.241"  "2"     "2.37"    "1.535"
##                     "-0.244"  "131"   "133.78"  "11.37"
##                     "-0.245"  "13"    "13.88"   "3.591"
##                     "-0.248"  "1"     "1.28"    "1.129"
##                     "-0.248"  "1"     "1.26"    "1.05"
##                     "-0.248"  "13"    "13.96"   "3.877"
##                     "-0.248"  "1"     "1.3"     "1.21"
##                     "-0.249"  "2"     "2.4"     "1.608"
##                     "-0.25"   "0"     "0.25"    "0.479"
##                     "-0.25"   "0"     "0.25"    "0.5"
##                     "-0.25"   "0"     "0.25"    "0.458"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.25"   "0"     "0.25"    "0.458"
##                     "-0.25"   "0"     "0.25"    "0.458"
##                     "-0.25"   "0"     "0.25"    "0.458"
##                     "-0.25"   "0"     "0.25"    "0.479"
##                     "-0.25"   "0"     "0.25"    "0.5"
##                     "-0.25"   "0"     "0.25"    "0.479"
##                     "-0.25"   "0"     "0.25"    "0.5"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.25"   "0"     "0.25"    "0.5"
##                     "-0.25"   "0"     "0.25"    "0.5"
##                     "-0.25"   "0"     "0.25"    "0.5"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.25"   "0"     "0.25"    "0.458"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.25"   "0"     "0.25"    "0.458"
##                     "-0.25"   "0"     "0.25"    "0.479"
##                     "-0.25"   "0"     "0.25"    "0.435"
##                     "-0.25"   "0"     "0.25"    "0.479"
##                     "-0.25"   "0"     "0.25"    "0.5"
##                     "-0.25"   "0"     "0.25"    "0.458"
##                     "-0.25"   "0"     "0.25"    "0.458"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.25"   "0"     "0.25"    "0.575"
##                     "-0.25"   "0"     "0.25"    "0.575"
##                     "-0.25"   "1"     "1.27"    "1.081"
##                     "-0.256"  "1"     "1.28"    "1.092"
##                     "-0.256"  "12"    "13.03"   "4.024"
##                     "-0.256"  "1"     "1.27"    "1.053"
##                     "-0.257"  "1"     "1.32"    "1.246"
##                     "-0.257"  "5"     "5.58"    "2.253"
##                     "-0.258"  "6"     "6.63"    "2.44"
##                     "-0.258"  "46"    "47.76"   "6.833"
##                     "-0.258"  "25"    "26.18"   "4.573"
##                     "-0.259"  "3"     "3.49"    "1.894"
##                     "-0.259"  "1"     "1.29"    "1.122"
##                     "-0.26"   "0"     "0.26"    "0.505"
##                     "-0.26"   "0"     "0.26"    "0.441"
```

```
##                   "-0.26"   "0"     "0.26"     "0.543"
##                   "-0.26"   "0"     "0.26"     "0.441"
##                   "-0.26"   "0"     "0.26"     "0.441"
##                   "-0.26"   "0"     "0.26"     "0.441"
##                   "-0.26"   "0"     "0.26"     "0.441"
##                   "-0.26"   "0"     "0.26"     "0.505"
##                   "-0.26"   "0"     "0.26"     "0.505"
##                   "-0.26"   "0"     "0.26"     "0.463"
##                   "-0.26"   "0"     "0.26"     "0.463"
##                   "-0.26"   "0"     "0.26"     "0.525"
##                   "-0.26"   "0"     "0.26"     "0.525"
##                   "-0.26"   "0"     "0.26"     "0.505"
##                   "-0.26"   "0"     "0.26"     "0.441"
##                   "-0.26"   "0"     "0.26"     "0.441"
##                   "-0.26"   "0"     "0.26"     "0.463"
##                   "-0.26"   "0"     "0.26"     "0.505"
##                   "-0.26"   "0"     "0.26"     "0.463"
##                   "-0.26"   "0"     "0.26"     "0.485"
##                   "-0.26"   "0"     "0.26"     "0.463"
##                   "-0.26"   "0"     "0.26"     "0.525"
##                   "-0.26"   "0"     "0.26"     "0.543"
##                   "-0.26"   "0"     "0.26"     "0.505"
##                   "-0.26"   "0"     "0.26"     "0.505"
##                   "-0.26"   "0"     "0.26"     "0.525"
##                   "-0.26"   "0"     "0.26"     "0.505"
##                   "-0.262"  "4"     "4.58"     "2.216"
##                   "-0.264"  "41"    "42.7"     "6.438"
##                   "-0.264"  "232"   "235.74"   "14.175"
##                   "-0.265"  "2"     "2.43"     "1.622"
##                   "-0.269"  "6"     "6.72"     "2.678"
##                   "-0.269"  "14"    "14.98"    "3.638"
##                   "-0.269"  "12"    "12.82"    "3.053"
##                   "-0.269"  "3"     "3.55"     "2.047"
##                   "-0.27"   "0"     "0.27"     "0.468"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.489"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.584"
##                   "-0.27"   "0"     "0.27"     "0.529"
##                   "-0.27"   "0"     "0.27"     "0.529"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.529"
##                   "-0.27"   "0"     "0.27"     "0.548"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.566"
##                   "-0.27"   "0"     "0.27"     "0.468"
##                   "-0.27"   "0"     "0.27"     "0.548"
##                   "-0.27"   "0"     "0.27"     "0.468"
##                   "-0.27"   "0"     "0.27"     "0.51"
##                   "-0.27"   "0"     "0.27"     "0.529"
```

```
##                    "-0.27"    "0"     "0.27"     "0.566"
##                    "-0.27"    "0"     "0.27"     "0.548"
##                    "-0.271"   "138"   "141.04"   "11.235"
##                    "-0.272"   "1"     "1.29"     "1.066"
##                    "-0.272"   "4"     "4.55"     "2.022"
##                    "-0.272"   "2"     "2.39"     "1.435"
##                    "-0.273"   "17"    "18.13"    "4.143"
##                    "-0.273"   "31"    "32.6"     "5.867"
##                    "-0.276"   "6"     "6.76"     "2.757"
##                    "-0.277"   "2"     "2.44"     "1.591"
##                    "-0.28"    "0"     "0.28"     "0.533"
##                    "-0.28"    "0"     "0.28"     "0.514"
##                    "-0.28"    "0"     "0.28"     "0.494"
##                    "-0.28"    "0"     "0.28"     "0.533"
##                    "-0.28"    "0"     "0.28"     "0.494"
##                    "-0.28"    "0"     "0.28"     "0.494"
##                    "-0.28"    "0"     "0.28"     "0.494"
##                    "-0.28"    "0"     "0.28"     "0.473"
##                    "-0.28"    "0"     "0.28"     "0.494"
##                    "-0.28"    "0"     "0.28"     "0.587"
##                    "-0.28"    "0"     "0.28"     "0.533"
##                    "-0.28"    "0"     "0.28"     "0.621"
##                    "-0.28"    "0"     "0.28"     "0.533"
##                    "-0.28"    "0"     "0.28"     "0.621"
##                    "-0.28"    "0"     "0.28"     "0.514"
##                    "-0.28"    "0"     "0.28"     "0.494"
##                    "-0.28"    "0"     "0.28"     "0.514"
##                    "-0.28"    "0"     "0.28"     "0.494"
##                    "-0.28"    "0"     "0.28"     "0.552"
##                    "-0.283"   "5"     "5.65"     "2.293"
##                    "-0.283"   "5"     "5.65"     "2.293"
##                    "-0.284"   "2"     "2.45"     "1.585"
##                    "-0.284"   "167"   "170.16"   "11.12"
##                    "-0.284"   "29"    "30.64"    "5.774"
##                    "-0.284"   "1"     "1.32"     "1.127"
##                    "-0.285"   "30"    "31.54"    "5.394"
##                    "-0.285"   "19"    "20.34"    "4.697"
##                    "-0.285"   "10"    "10.87"    "3.054"
##                    "-0.287"   "45"    "46.76"    "6.137"
##                    "-0.287"   "11"    "11.89"    "3.097"
##                    "-0.289"   "1"     "1.35"     "1.209"
##                    "-0.289"   "1"     "1.35"     "1.209"
##                    "-0.29"    "0"     "0.29"     "0.556"
##                    "-0.29"    "3"     "3.49"     "1.691"
##                    "-0.29"    "0"     "0.29"     "0.556"
##                    "-0.29"    "0"     "0.29"     "0.591"
##                    "-0.29"    "0"     "0.29"     "0.537"
##                    "-0.29"    "4"     "4.55"     "1.898"
##                    "-0.29"    "0"     "0.29"     "0.537"
##                    "-0.29"    "0"     "0.29"     "0.556"
##                    "-0.29"    "0"     "0.29"     "0.556"
##                    "-0.29"    "9"     "9.94"     "3.244"
##                    "-0.291"   "35"    "36.6"     "5.49"
##                    "-0.291"   "1"     "1.41"     "1.408"
```

```
##                   "-0.298"  "2"    "2.47"    "1.579"
##                   "-0.299"  "2"    "2.46"    "1.54"
##                   "-0.3"    "0"    "0.3"     "0.522"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.577"
##                   "-0.3"    "0"    "0.3"     "0.577"
##                   "-0.3"    "0"    "0.3"     "0.577"
##                   "-0.3"    "0"    "0.3"     "0.522"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.595"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.541"
##                   "-0.3"    "7"    "7.82"    "2.732"
##                   "-0.3"    "0"    "0.3"     "0.595"
##                   "-0.3"    "0"    "0.3"     "0.482"
##                   "-0.3"    "0"    "0.3"     "0.482"
##                   "-0.3"    "0"    "0.3"     "0.522"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "3"    "3.54"    "1.8"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.482"
##                   "-0.3"    "0"    "0.3"     "0.482"
##                   "-0.3"    "0"    "0.3"     "0.56"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.577"
##                   "-0.3"    "0"    "0.3"     "0.577"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.482"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.522"
##                   "-0.3"    "0"    "0.3"     "0.522"
##                   "-0.301"  "9"    "9.86"    "2.86"
##                   "-0.303"  "10"   "10.92"   "3.034"
##                   "-0.304"  "622"  "631.56"  "31.469"
##                   "-0.304"  "4"    "4.6"     "1.975"
##                   "-0.305"  "30"   "31.52"   "4.98"
##                   "-0.305"  "7"    "7.74"    "2.427"
##                   "-0.305"  "7"    "7.74"    "2.427"
##                   "-0.305"  "7"    "7.74"    "2.427"
##                   "-0.305"  "7"    "7.74"    "2.427"
##                   "-0.306"  "3"    "3.62"    "2.029"
##                   "-0.306"  "19"   "20.13"   "3.697"
##                   "-0.308"  "72"   "74.45"   "7.946"
##                   "-0.309"  "27"   "28.66"   "5.371"
##                   "-0.309"  "36"   "37.69"   "5.466"
##                   "-0.31"   "0"    "0.31"    "0.526"
##                   "-0.31"   "0"    "0.31"    "0.581"
##                   "-0.31"   "0"    "0.31"    "0.545"
```

```
##                     "-0.31"   "0"     "0.31"     "0.545"
##                     "-0.31"   "0"     "0.31"     "0.545"
##                     "-0.31"   "0"     "0.31"     "0.563"
##                     "-0.31"   "0"     "0.31"     "0.545"
##                     "-0.31"   "0"     "0.31"     "0.581"
##                     "-0.31"   "0"     "0.31"     "0.563"
##                     "-0.31"   "0"     "0.31"     "0.581"
##                     "-0.31"   "1"     "1.37"     "1.195"
##                     "-0.31"   "0"     "0.31"     "0.526"
##                     "-0.31"   "0"     "0.31"     "0.545"
##                     "-0.31"   "0"     "0.31"     "0.563"
##                     "-0.31"   "0"     "0.31"     "0.563"
##                     "-0.31"   "0"     "0.31"     "0.545"
##                     "-0.311"  "1"     "1.34"     "1.094"
##                     "-0.312"  "8"     "8.88"     "2.822"
##                     "-0.313"  "2"     "2.5"      "1.599"
##                     "-0.314"  "55"    "57.57"    "8.184"
##                     "-0.316"  "39"    "40.97"    "6.24"
##                     "-0.318"  "2"     "2.5"      "1.573"
##                     "-0.318"  "2"     "2.5"      "1.573"
##                     "-0.319"  "525"   "531.74"   "21.144"
##                     "-0.32"   "0"     "0.32"     "0.584"
##                     "-0.32"   "0"     "0.32"     "0.584"
##                     "-0.32"   "0"     "0.32"     "0.566"
##                     "-0.32"   "0"     "0.32"     "0.51"
##                     "-0.32"   "0"     "0.32"     "0.584"
##                     "-0.32"   "0"     "0.32"     "0.584"
##                     "-0.32"   "0"     "0.32"     "0.649"
##                     "-0.32"   "0"     "0.32"     "0.548"
##                     "-0.32"   "0"     "0.32"     "0.566"
##                     "-0.32"   "0"     "0.32"     "0.51"
##                     "-0.32"   "2"     "2.48"     "1.501"
##                     "-0.32"   "0"     "0.32"     "0.584"
##                     "-0.32"   "0"     "0.32"     "0.584"
##                     "-0.32"   "0"     "0.32"     "0.618"
##                     "-0.32"   "0"     "0.32"     "0.53"
##                     "-0.322"  "2"     "2.52"     "1.617"
##                     "-0.324"  "2"     "2.51"     "1.573"
##                     "-0.324"  "2"     "2.51"     "1.573"
##                     "-0.325"  "1"     "1.38"     "1.17"
##                     "-0.325"  "173"   "177.17"   "12.836"
##                     "-0.325"  "3"     "3.59"     "1.815"
##                     "-0.326"  "1"     "1.37"     "1.134"
##                     "-0.326"  "1"     "1.36"     "1.106"
##                     "-0.326"  "1"     "1.37"     "1.134"
##                     "-0.326"  "1"     "1.37"     "1.134"
##                     "-0.326"  "1"     "1.37"     "1.134"
##                     "-0.328"  "27"    "28.63"    "4.97"
##                     "-0.33"   "0"     "0.33"     "0.587"
##                     "-0.33"   "0"     "0.33"     "0.551"
##                     "-0.33"   "1"     "1.38"     "1.153"
##                     "-0.33"   "0"     "0.33"     "0.57"
##                     "-0.33"   "0"     "0.33"     "0.551"
##                     "-0.33"   "0"     "0.33"     "0.604"
```

```
##                    "-0.33"   "0"    "0.33"    "0.57"
##                    "-0.33"   "0"    "0.33"    "0.587"
##                    "-0.33"   "0"    "0.33"    "0.514"
##                    "-0.33"   "0"    "0.33"    "0.493"
##                    "-0.33"   "0"    "0.33"    "0.57"
##                    "-0.33"   "2"    "2.53"    "1.605"
##                    "-0.33"   "0"    "0.33"    "0.587"
##                    "-0.33"   "0"    "0.33"    "0.514"
##                    "-0.33"   "0"    "0.33"    "0.587"
##                    "-0.33"   "0"    "0.33"    "0.514"
##                    "-0.33"   "0"    "0.33"    "0.533"
##                    "-0.33"   "0"    "0.33"    "0.587"
##                    "-0.33"   "0"    "0.33"    "0.551"
##                    "-0.33"   "0"    "0.33"    "0.514"
##                    "-0.33"   "0"    "0.33"    "0.514"
##                    "-0.33"   "0"    "0.33"    "0.587"
##                    "-0.331"  "4"    "4.73"    "2.206"
##                    "-0.334"  "1"    "1.4"     "1.198"
##                    "-0.334"  "1"    "1.4"     "1.198"
##                    "-0.334"  "1"    "1.4"     "1.198"
##                    "-0.336"  "8"    "8.95"    "2.83"
##                    "-0.336"  "2"    "2.5"     "1.487"
##                    "-0.336"  "7"    "7.91"    "2.712"
##                    "-0.34"   "0"    "0.34"    "0.572"
##                    "-0.34"   "0"    "0.34"    "0.59"
##                    "-0.34"   "0"    "0.34"    "0.59"
##                    "-0.34"   "0"    "0.34"    "0.536"
##                    "-0.34"   "0"    "0.34"    "0.536"
##                    "-0.34"   "0"    "0.34"    "0.536"
##                    "-0.34"   "0"    "0.34"    "0.517"
##                    "-0.34"   "0"    "0.34"    "0.623"
##                    "-0.34"   "0"    "0.34"    "0.517"
##                    "-0.34"   "0"    "0.34"    "0.623"
##                    "-0.34"   "0"    "0.34"    "0.536"
##                    "-0.34"   "0"    "0.34"    "0.517"
##                    "-0.34"   "0"    "0.34"    "0.517"
##                    "-0.34"   "0"    "0.34"    "0.536"
##                    "-0.34"   "0"    "0.34"    "0.67"
##                    "-0.34"   "0"    "0.34"    "0.555"
##                    "-0.34"   "0"    "0.34"    "0.59"
##                    "-0.34"   "0"    "0.34"    "0.572"
##                    "-0.34"   "0"    "0.34"    "0.59"
##                    "-0.342"  "3"    "3.72"    "2.104"
##                    "-0.343"  "59"   "61.52"   "7.348"
##                    "-0.343"  "54"   "56.31"   "6.725"
##                    "-0.343"  "10"   "11.16"   "3.378"
##                    "-0.345"  "24"   "25.76"   "5.101"
##                    "-0.345"  "2"    "2.56"    "1.623"
##                    "-0.345"  "50"   "52.22"   "6.435"
##                    "-0.346"  "2"    "2.51"    "1.474"
##                    "-0.346"  "2"    "2.51"    "1.474"
##                    "-0.347"  "17"   "18.37"   "3.951"
##                    "-0.348"  "1"    "1.47"    "1.352"
##                    "-0.349"  "4"    "4.72"    "2.065"
```

534

```
##                     "-0.349"  "1"     "1.39"     "1.118"
##                     "-0.349"  "4"     "4.72"     "2.065"
##                     "-0.35"   "0"     "0.35"     "0.592"
##                     "-0.35"   "0"     "0.35"     "0.592"
##                     "-0.35"   "0"     "0.35"     "0.557"
##                     "-0.35"   "0"     "0.35"     "0.609"
##                     "-0.35"   "0"     "0.35"     "0.557"
##                     "-0.35"   "0"     "0.35"     "0.672"
##                     "-0.35"   "0"     "0.35"     "0.52"
##                     "-0.35"   "0"     "0.35"     "0.539"
##                     "-0.35"   "0"     "0.35"     "0.609"
##                     "-0.35"   "0"     "0.35"     "0.575"
##                     "-0.35"   "1"     "1.35"     "0.968"
##                     "-0.35"   "1"     "1.35"     "0.968"
##                     "-0.35"   "0"     "0.35"     "0.657"
##                     "-0.35"   "0"     "0.35"     "0.557"
##                     "-0.35"   "0"     "0.35"     "0.672"
##                     "-0.35"   "0"     "0.35"     "0.52"
##                     "-0.35"   "0"     "0.35"     "0.52"
##                     "-0.35"   "0"     "0.35"     "0.575"
##                     "-0.352"  "2"     "2.56"     "1.591"
##                     "-0.353"  "2"     "2.55"     "1.559"
##                     "-0.353"  "1100"  "1110.95"  "31.02"
##                     "-0.353"  "1"     "1.42"     "1.191"
##                     "-0.354"  "1"     "1.46"     "1.298"
##                     "-0.356"  "1"     "1.43"     "1.208"
##                     "-0.357"  "1"     "1.48"     "1.344"
##                     "-0.358"  "448"   "457.36"   "26.177"
##                     "-0.359"  "4"     "4.72"     "2.005"
##                     "-0.359"  "1"     "1.44"     "1.225"
##                     "-0.36"   "16"    "17.37"    "3.81"
##                     "-0.36"   "0"     "0.36"     "0.612"
##                     "-0.36"   "0"     "0.36"     "0.56"
##                     "-0.36"   "2"     "2.51"     "1.418"
##                     "-0.36"   "0"     "0.36"     "0.542"
##                     "-0.36"   "0"     "0.36"     "0.578"
##                     "-0.36"   "0"     "0.36"     "0.595"
##                     "-0.36"   "0"     "0.36"     "0.628"
##                     "-0.36"   "0"     "0.36"     "0.612"
##                     "-0.36"   "0"     "0.36"     "0.523"
##                     "-0.36"   "0"     "0.36"     "0.56"
##                     "-0.36"   "0"     "0.36"     "0.578"
##                     "-0.36"   "4"     "4.76"     "2.109"
##                     "-0.36"   "0"     "0.36"     "0.542"
##                     "-0.36"   "11"    "12.4"     "3.892"
##                     "-0.36"   "0"     "0.36"     "0.523"
##                     "-0.36"   "0"     "0.36"     "0.56"
##                     "-0.36"   "5"     "5.77"     "2.136"
##                     "-0.36"   "0"     "0.36"     "0.578"
##                     "-0.36"   "0"     "0.36"     "0.578"
##                     "-0.36"   "11"    "12.27"    "3.53"
##                     "-0.36"   "0"     "0.36"     "0.56"
##                     "-0.36"   "0"     "0.36"     "0.578"
##                     "-0.36"   "0"     "0.36"     "0.578"
```

```
##                     "-0.36"   "0"     "0.36"    "0.56"
##                     "-0.362"  "15"    "16.34"   "3.704"
##                     "-0.365"  "167"   "171.6"   "12.604"
##                     "-0.366"  "1"     "1.5"     "1.367"
##                     "-0.367"  "1"     "1.44"    "1.2"
##                     "-0.367"  "1"     "1.44"    "1.2"
##                     "-0.367"  "2"     "2.54"    "1.473"
##                     "-0.368"  "64"    "67.29"   "8.929"
##                     "-0.37"   "0"     "0.37"    "0.58"
##                     "-0.37"   "0"     "0.37"    "0.63"
##                     "-0.37"   "0"     "0.37"    "0.597"
##                     "-0.37"   "0"     "0.37"    "0.562"
##                     "-0.37"   "0"     "0.37"    "0.597"
##                     "-0.37"   "0"     "0.37"    "0.597"
##                     "-0.37"   "0"     "0.37"    "0.614"
##                     "-0.37"   "0"     "0.37"    "0.614"
##                     "-0.37"   "15"    "16.54"   "4.159"
##                     "-0.37"   "0"     "0.37"    "0.58"
##                     "-0.37"   "0"     "0.37"    "0.58"
##                     "-0.37"   "0"     "0.37"    "0.597"
##                     "-0.37"   "0"     "0.37"    "0.63"
##                     "-0.37"   "0"     "0.37"    "0.63"
##                     "-0.37"   "0"     "0.37"    "0.58"
##                     "-0.37"   "0"     "0.37"    "0.677"
##                     "-0.37"   "0"     "0.37"    "0.614"
##                     "-0.37"   "0"     "0.37"    "0.614"
##                     "-0.37"   "0"     "0.37"    "0.63"
##                     "-0.372"  "349"   "356.39"  "19.858"
##                     "-0.374"  "47"    "49.71"   "7.255"
##                     "-0.375"  "1"     "1.43"    "1.148"
##                     "-0.375"  "9"     "10.13"   "3.011"
##                     "-0.375"  "10"    "11.25"   "3.334"
##                     "-0.375"  "1"     "1.42"    "1.121"
##                     "-0.376"  "30"    "32.01"   "5.342"
##                     "-0.378"  "9"     "10.14"   "3.019"
##                     "-0.379"  "2"     "2.56"    "1.479"
##                     "-0.379"  "2"     "2.56"    "1.479"
##                     "-0.379"  "31"    "33.3"    "6.074"
##                     "-0.38"   "0"     "0.38"    "0.599"
##                     "-0.38"   "0"     "0.38"    "0.546"
##                     "-0.38"   "0"     "0.38"    "0.599"
##                     "-0.38"   "0"     "0.38"    "0.663"
##                     "-0.38"   "0"     "0.38"    "0.599"
##                     "-0.38"   "0"     "0.38"    "0.663"
##                     "-0.38"   "0"     "0.38"    "0.663"
##                     "-0.38"   "0"     "0.38"    "0.582"
##                     "-0.38"   "0"     "0.38"    "0.599"
##                     "-0.38"   "44"    "46.06"   "5.419"
##                     "-0.38"   "0"     "0.38"    "0.736"
##                     "-0.38"   "0"     "0.38"    "0.678"
##                     "-0.38"   "0"     "0.38"    "0.708"
##                     "-0.38"   "0"     "0.38"    "0.708"
##                     "-0.38"   "0"     "0.38"    "0.678"
##                     "-0.38"   "1"     "1.45"    "1.184"
```

536

```
##                      "-0.38"    "0"     "0.38"    "0.736"
##                      "-0.38"    "0"     "0.38"    "0.528"
##                      "-0.38"    "0"     "0.38"    "0.599"
##                      "-0.383"   "4"     "4.91"    "2.375"
##                      "-0.385"   "16"    "17.59"   "4.129"
##                      "-0.386"   "4"     "4.85"    "2.204"
##                      "-0.386"   "1"     "1.47"    "1.218"
##                      "-0.386"   "9"     "10.12"   "2.9"
##                      "-0.387"   "10"    "11.21"   "3.125"
##                      "-0.387"   "19"    "20.74"   "4.498"
##                      "-0.388"   "71"    "74.29"   "8.471"
##                      "-0.39"    "0"     "0.39"    "0.601"
##                      "-0.39"    "0"     "0.39"    "0.567"
##                      "-0.39"    "0"     "0.39"    "0.709"
##                      "-0.39"    "0"     "0.39"    "0.709"
##                      "-0.39"    "0"     "0.39"    "0.584"
##                      "-0.39"    "0"     "0.39"    "0.584"
##                      "-0.39"    "0"     "0.39"    "0.65"
##                      "-0.39"    "0"     "0.39"    "0.68"
##                      "-0.39"    "0"     "0.39"    "0.65"
##                      "-0.39"    "0"     "0.39"    "0.567"
##                      "-0.39"    "0"     "0.39"    "0.618"
##                      "-0.39"    "0"     "0.39"    "0.584"
##                      "-0.39"    "0"     "0.39"    "0.618"
##                      "-0.39"    "0"     "0.39"    "0.601"
##                      "-0.39"    "0"     "0.39"    "0.618"
##                      "-0.39"    "0"     "0.39"    "0.695"
##                      "-0.39"    "0"     "0.39"    "0.68"
##                      "-0.39"    "0"     "0.39"    "0.618"
##                      "-0.39"    "0"     "0.39"    "0.65"
##                      "-0.39"    "0"     "0.39"    "0.618"
##                      "-0.391"   "6"     "7.11"    "2.842"
##                      "-0.391"   "6"     "7.04"    "2.659"
##                      "-0.392"   "27"    "29.03"   "5.184"
##                      "-0.393"   "7"     "8.13"    "2.877"
##                      "-0.393"   "10"    "11.16"   "2.95"
##                      "-0.394"   "2"     "2.61"    "1.55"
##                      "-0.394"   "9"     "10.19"   "3.024"
##                      "-0.395"   "18"    "19.66"   "4.207"
##                      "-0.396"   "4"     "4.91"    "2.297"
##                      "-0.396"   "13"    "14.44"   "3.636"
##                      "-0.398"   "10"    "11.24"   "3.114"
##                      "-0.398"   "2"     "2.66"    "1.659"
##                      "-0.399"   "6"     "7.07"    "2.679"
##                      "-0.4"     "0"     "0.4"     "0.636"
##                      "-0.4"     "0"     "0.4"     "0.62"
##                      "-0.4"     "0"     "0.4"     "0.62"
##                      "-0.4"     "0"     "0.4"     "0.586"
##                      "-0.4"     "0"     "0.4"     "0.569"
##                      "-0.4"     "0"     "0.4"     "0.636"
##                      "-0.4"     "0"     "0.4"     "0.636"
##                      "-0.4"     "0"     "0.4"     "0.667"
##                      "-0.4"     "0"     "0.4"     "0.586"
##                      "-0.4"     "0"     "0.4"     "0.62"
```

```
##                      "-0.4"    "0"      "0.4"     "0.636"
##                      "-0.4"    "0"      "0.4"     "0.586"
##                      "-0.4"    "0"      "0.4"     "0.696"
##                      "-0.4"    "0"      "0.4"     "0.586"
##                      "-0.4"    "0"      "0.4"     "0.62"
##                      "-0.401"  "22"     "23.81"   "4.512"
##                      "-0.401"  "79"     "82.57"   "8.913"
##                      "-0.402"  "2"      "2.58"    "1.444"
##                      "-0.402"  "1"      "1.58"    "1.444"
##                      "-0.405"  "2"      "2.63"    "1.555"
##                      "-0.405"  "2"      "2.63"    "1.555"
##                      "-0.405"  "2"      "2.63"    "1.555"
##                      "-0.406"  "13"     "14.66"   "4.09"
##                      "-0.409"  "2"      "2.71"    "1.737"
##                      "-0.41"   "0"      "0.41"    "0.621"
##                      "-0.41"   "0"      "0.41"    "0.668"
##                      "-0.41"   "0"      "0.41"    "0.637"
##                      "-0.41"   "0"      "0.41"    "0.653"
##                      "-0.41"   "0"      "0.41"    "0.605"
##                      "-0.41"   "0"      "0.41"    "0.552"
##                      "-0.41"   "0"      "0.41"    "0.552"
##                      "-0.41"   "0"      "0.41"    "0.683"
##                      "-0.41"   "0"      "0.41"    "0.653"
##                      "-0.41"   "0"      "0.41"    "0.588"
##                      "-0.41"   "0"      "0.41"    "0.712"
##                      "-0.41"   "0"      "0.41"    "0.552"
##                      "-0.41"   "0"      "0.41"    "0.653"
##                      "-0.41"   "0"      "0.41"    "0.621"
##                      "-0.41"   "0"      "0.41"    "0.653"
##                      "-0.41"   "0"      "0.41"    "0.683"
##                      "-0.41"   "2"      "2.74"    "1.807"
##                      "-0.41"   "0"      "0.41"    "0.588"
##                      "-0.41"   "0"      "0.41"    "0.621"
##                      "-0.41"   "0"      "0.41"    "0.552"
##                      "-0.41"   "0"      "0.41"    "0.552"
##                      "-0.41"   "0"      "0.41"    "0.552"
##                      "-0.41"   "0"      "0.41"    "0.57"
##                      "-0.41"   "0"      "0.41"    "0.653"
##                      "-0.41"   "0"      "0.41"    "0.621"
##                      "-0.41"   "0"      "0.41"    "0.653"
##                      "-0.41"   "0"      "0.41"    "0.653"
##                      "-0.41"   "0"      "0.41"    "0.621"
##                      "-0.41"   "0"      "0.41"    "0.552"
##                      "-0.41"   "0"      "0.41"    "0.552"
##                      "-0.413"  "67"     "70.05"   "7.389"
##                      "-0.414"  "3"      "3.83"    "2.005"
##                      "-0.416"  "1"      "1.51"    "1.227"
##                      "-0.416"  "1"      "1.5"     "1.202"
##                      "-0.417"  "213"    "219.21"  "14.909"
##                      "-0.417"  "5"      "6"       "2.395"
##                      "-0.417"  "5"      "6"       "2.395"
##                      "-0.418"  "4"      "4.84"    "2.009"
##                      "-0.418"  "2"      "2.68"    "1.626"
##                      "-0.418"  "1"      "1.47"    "1.123"
```

```
##                    "-0.419" "113" "117.92" "11.739"
##                    "-0.419" "24"  "26.15"  "5.125"
##                    "-0.42"  "44"  "46.65"  "6.314"
##                    "-0.42"  "0"   "0.42"   "0.572"
##                    "-0.42"  "0"   "0.42"   "0.572"
##                    "-0.42"  "0"   "0.42"   "0.606"
##                    "-0.42"  "0"   "0.42"   "0.589"
##                    "-0.42"  "0"   "0.42"   "0.606"
##                    "-0.42"  "0"   "0.42"   "0.572"
##                    "-0.42"  "0"   "0.42"   "0.589"
##                    "-0.42"  "0"   "0.42"   "0.572"
##                    "-0.42"  "0"   "0.42"   "0.589"
##                    "-0.42"  "0"   "0.42"   "0.638"
##                    "-0.42"  "0"   "0.42"   "0.654"
##                    "-0.42"  "0"   "0.42"   "0.554"
##                    "-0.42"  "0"   "0.42"   "0.572"
##                    "-0.42"  "0"   "0.42"   "0.622"
##                    "-0.421" "17"  "18.87"  "4.446"
##                    "-0.422" "27"  "29.24"  "5.303"
##                    "-0.423" "1"   "1.58"   "1.372"
##                    "-0.424" "1"   "1.44"   "1.038"
##                    "-0.424" "12"  "13.35"  "3.186"
##                    "-0.425" "2"   "2.73"   "1.717"
##                    "-0.425" "15"  "16.82"  "4.281"
##                    "-0.426" "2"   "2.74"   "1.739"
##                    "-0.426" "4"   "4.91"   "2.137"
##                    "-0.429" "1"   "1.57"   "1.328"
##                    "-0.43"  "0"   "0.43"   "0.64"
##                    "-0.43"  "0"   "0.43"   "0.64"
##                    "-0.43"  "0"   "0.43"   "0.685"
##                    "-0.43"  "0"   "0.43"   "0.607"
##                    "-0.43"  "0"   "0.43"   "0.685"
##                    "-0.43"  "0"   "0.43"   "0.685"
##                    "-0.43"  "0"   "0.43"   "0.624"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.573"
##                    "-0.43"  "0"   "0.43"   "0.728"
##                    "-0.43"  "0"   "0.43"   "0.728"
##                    "-0.43"  "0"   "0.43"   "0.64"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.624"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.64"
##                    "-0.43"  "0"   "0.43"   "0.685"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.655"
##                    "-0.43"  "0"   "0.43"   "0.655"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.671"
##                    "-0.43"  "0"   "0.43"   "0.685"
```

```
##                      "-0.43"    "0"    "0.43"    "0.671"
##                      "-0.43"    "0"    "0.43"    "0.685"
##                      "-0.43"    "0"    "0.43"    "0.64"
##                      "-0.43"    "0"    "0.43"    "0.685"
##                      "-0.43"    "0"    "0.43"    "0.685"
##                      "-0.43"    "0"    "0.43"    "0.685"
##                      "-0.43"    "0"    "0.43"    "0.685"
##                      "-0.43"    "0"    "0.43"    "0.59"
##                      "-0.43"    "0"    "0.43"    "0.655"
##                      "-0.433"   "45"   "47.9"    "6.704"
##                      "-0.435"   "11"   "12.57"   "3.61"
##                      "-0.436"   "2"    "2.71"    "1.629"
##                      "-0.436"   "2"    "2.75"    "1.72"
##                      "-0.436"   "2"    "2.71"    "1.629"
##                      "-0.436"   "5"    "6.02"    "2.34"
##                      "-0.437"   "1"    "1.55"    "1.258"
##                      "-0.437"   "1"    "1.55"    "1.258"
##                      "-0.437"   "1"    "1.55"    "1.258"
##                      "-0.437"   "1"    "1.55"    "1.258"
##                      "-0.437"   "12"   "13.57"   "3.596"
##                      "-0.438"   "2"    "2.66"    "1.506"
##                      "-0.44"    "0"    "0.44"    "0.701"
##                      "-0.44"    "0"    "0.44"    "0.641"
##                      "-0.44"    "0"    "0.44"    "0.671"
##                      "-0.44"    "0"    "0.44"    "0.592"
##                      "-0.44"    "0"    "0.44"    "0.592"
##                      "-0.44"    "0"    "0.44"    "0.592"
##                      "-0.44"    "1"    "1.55"    "1.25"
##                      "-0.44"    "0"    "0.44"    "0.592"
##                      "-0.44"    "0"    "0.44"    "0.671"
##                      "-0.44"    "3"    "3.88"    "2.001"
##                      "-0.44"    "0"    "0.44"    "0.656"
##                      "-0.44"    "0"    "0.44"    "0.671"
##                      "-0.44"    "0"    "0.44"    "0.686"
##                      "-0.44"    "0"    "0.44"    "0.641"
##                      "-0.44"    "0"    "0.44"    "0.715"
##                      "-0.44"    "0"    "0.44"    "0.592"
##                      "-0.441"   "51"   "53.84"   "6.44"
##                      "-0.442"   "6"    "7.24"    "2.804"
##                      "-0.442"   "6"    "7.24"    "2.804"
##                      "-0.443"   "15"   "16.89"   "4.264"
##                      "-0.443"   "1"    "1.54"    "1.218"
##                      "-0.447"   "2"    "2.74"    "1.655"
##                      "-0.45"    "0"    "0.45"    "0.575"
##                      "-0.45"    "0"    "0.45"    "0.716"
##                      "-0.45"    "0"    "0.45"    "0.592"
##                      "-0.45"    "0"    "0.45"    "0.702"
##                      "-0.45"    "0"    "0.45"    "0.642"
##                      "-0.45"    "0"    "0.45"    "0.642"
##                      "-0.45"    "0"    "0.45"    "0.687"
##                      "-0.45"    "0"    "0.45"    "0.687"
##                      "-0.45"    "0"    "0.45"    "0.642"
##                      "-0.45"    "0"    "0.45"    "0.657"
##                      "-0.45"    "0"    "0.45"    "0.702"
```

```
##                      "-0.45"   "0"     "0.45"    "0.687"
##                      "-0.45"   "0"     "0.45"    "0.592"
##                      "-0.451"  "7"     "8.25"    "2.772"
##                      "-0.454"  "6"     "7.36"    "2.993"
##                      "-0.455"  "1"     "1.59"    "1.296"
##                      "-0.456"  "32"    "34.61"   "5.724"
##                      "-0.456"  "22"    "24.22"   "4.865"
##                      "-0.457"  "219"   "226.26"  "15.888"
##                      "-0.458"  "3"     "3.89"    "1.943"
##                      "-0.46"   "0"     "0.46"    "0.673"
##                      "-0.46"   "0"     "0.46"    "0.593"
##                      "-0.46"   "0"     "0.46"    "0.731"
##                      "-0.46"   "0"     "0.46"    "0.673"
##                      "-0.46"   "0"     "0.46"    "0.61"
##                      "-0.46"   "0"     "0.46"    "0.688"
##                      "-0.46"   "0"     "0.46"    "0.61"
##                      "-0.46"   "0"     "0.46"    "0.593"
##                      "-0.46"   "0"     "0.46"    "0.658"
##                      "-0.46"   "0"     "0.46"    "0.658"
##                      "-0.46"   "0"     "0.46"    "0.61"
##                      "-0.46"   "0"     "0.46"    "0.593"
##                      "-0.46"   "0"     "0.46"    "0.688"
##                      "-0.46"   "0"     "0.46"    "0.673"
##                      "-0.46"   "0"     "0.46"    "0.688"
##                      "-0.46"   "0"     "0.46"    "0.673"
##                      "-0.46"   "0"     "0.46"    "0.731"
##                      "-0.46"   "0"     "0.46"    "0.658"
##                      "-0.46"   "0"     "0.46"    "0.658"
##                      "-0.46"   "0"     "0.46"    "0.673"
##                      "-0.46"   "0"     "0.46"    "0.593"
##                      "-0.46"   "0"     "0.46"    "0.688"
##                      "-0.46"   "0"     "0.46"    "0.658"
##                      "-0.46"   "0"     "0.46"    "0.758"
##                      "-0.461"  "13"    "14.55"   "3.365"
##                      "-0.462"  "122"   "127.16"  "11.171"
##                      "-0.463"  "30"    "32.81"   "6.065"
##                      "-0.463"  "9"     "10.3"    "2.805"
##                      "-0.463"  "3"     "3.82"    "1.772"
##                      "-0.464"  "2"     "2.8"     "1.723"
##                      "-0.464"  "2"     "2.8"     "1.723"
##                      "-0.464"  "2"     "2.8"     "1.723"
##                      "-0.464"  "2"     "2.8"     "1.723"
##                      "-0.464"  "2"     "2.8"     "1.723"
##                      "-0.467"  "10"    "11.59"   "3.403"
##                      "-0.467"  "10"    "11.59"   "3.403"
##                      "-0.467"  "10"    "11.59"   "3.403"
##                      "-0.467"  "2"     "2.68"    "1.456"
##                      "-0.467"  "4"     "5.11"    "2.378"
##                      "-0.467"  "10"    "11.59"   "3.403"
##                      "-0.468"  "1"     "1.64"    "1.367"
##                      "-0.469"  "3"     "3.79"    "1.684"
##                      "-0.469"  "1"     "1.66"    "1.409"
##                      "-0.47"   "0"     "0.47"    "0.688"
##                      "-0.47"   "0"     "0.47"    "0.611"
```

```
##                      "-0.47"    "0"     "0.47"     "0.703"
##                      "-0.47"    "0"     "0.47"     "0.658"
##                      "-0.47"    "0"     "0.47"     "0.658"
##                      "-0.47"    "0"     "0.47"     "0.731"
##                      "-0.47"    "0"     "0.47"     "0.703"
##                      "-0.47"    "0"     "0.47"     "0.658"
##                      "-0.47"    "0"     "0.47"     "0.674"
##                      "-0.47"    "0"     "0.47"     "0.674"
##                      "-0.47"    "0"     "0.47"     "0.643"
##                      "-0.47"    "0"     "0.47"     "0.674"
##                      "-0.47"    "0"     "0.47"     "0.611"
##                      "-0.47"    "0"     "0.47"     "0.674"
##                      "-0.47"    "0"     "0.47"     "0.643"
##                      "-0.47"    "0"     "0.47"     "0.688"
##                      "-0.47"    "0"     "0.47"     "0.717"
##                      "-0.471"   "35"    "37.71"    "5.758"
##                      "-0.473"   "4"     "4.99"     "2.091"
##                      "-0.474"   "1"     "1.77"     "1.626"
##                      "-0.475"   "1"     "1.57"     "1.2"
##                      "-0.476"   "99"    "103.54"   "9.548"
##                      "-0.477"   "2"     "2.84"     "1.762"
##                      "-0.477"   "1"     "1.54"     "1.132"
##                      "-0.479"   "1"     "1.55"     "1.149"
##                      "-0.479"   "9"     "10.49"    "3.109"
##                      "-0.48"    "0"     "0.48"     "0.627"
##                      "-0.48"    "0"     "0.48"     "0.745"
##                      "-0.48"    "0"     "0.48"     "0.745"
##                      "-0.48"    "0"     "0.48"     "0.703"
##                      "-0.48"    "0"     "0.48"     "0.674"
##                      "-0.48"    "0"     "0.48"     "0.731"
##                      "-0.48"    "0"     "0.48"     "0.759"
##                      "-0.48"    "58"    "61.54"    "7.372"
##                      "-0.48"    "0"     "0.48"     "0.745"
##                      "-0.48"    "0"     "0.48"     "0.703"
##                      "-0.48"    "0"     "0.48"     "0.659"
##                      "-0.48"    "0"     "0.48"     "0.689"
##                      "-0.48"    "0"     "0.48"     "0.689"
##                      "-0.48"    "0"     "0.48"     "0.689"
##                      "-0.48"    "0"     "0.48"     "0.745"
##                      "-0.48"    "0"     "0.48"     "0.627"
##                      "-0.48"    "0"     "0.48"     "0.643"
##                      "-0.48"    "0"     "0.48"     "0.689"
##                      "-0.48"    "0"     "0.48"     "0.689"
##                      "-0.484"   "1"     "1.58"     "1.199"
##                      "-0.486"   "1"     "1.68"     "1.399"
##                      "-0.486"   "2"     "2.73"     "1.503"
##                      "-0.487"   "6"     "7.45"     "2.976"
##                      "-0.489"   "1"     "1.61"     "1.246"
##                      "-0.489"   "3"     "3.94"     "1.922"
##                      "-0.49"    "0"     "0.49"     "0.643"
##                      "-0.49"    "0"     "0.49"     "0.689"
##                      "-0.49"    "0"     "0.49"     "0.674"
##                      "-0.49"    "0"     "0.49"     "0.643"
##                      "-0.49"    "0"     "0.49"     "0.718"
```

```
##                      "-0.49"   "0"     "0.49"    "0.674"
##                      "-0.49"   "2"     "2.96"    "1.959"
##                      "-0.49"   "0"     "0.49"    "0.674"
##                      "-0.493"  "11"    "12.65"   "3.347"
##                      "-0.495"  "1"     "1.56"    "1.131"
##                      "-0.496"  "1"     "1.59"    "1.19"
##                      "-0.496"  "1"     "1.69"    "1.39"
##                      "-0.497"  "5"     "6.16"    "2.334"
##                      "-0.499"  "1"     "1.59"    "1.181"
##                      "-0.499"  "299"   "310.49"  "23.042"
##                      "-0.499"  "1"     "1.59"    "1.181"
##                      "-0.5"    "0"     "0.5"     "0.659"
##                      "-0.5"    "0"     "0.5"     "0.835"
##                      "-0.5"    "0"     "0.5"     "0.785"
##                      "-0.5"    "0"     "0.5"     "0.689"
##                      "-0.5"    "0"     "0.5"     "0.745"
##                      "-0.5"    "0"     "0.5"     "0.674"
##                      "-0.5"    "0"     "0.5"     "0.689"
##                      "-0.502"  "2"     "2.81"    "1.612"
##                      "-0.502"  "1"     "1.67"    "1.334"
##                      "-0.503"  "2"     "2.94"    "1.869"
##                      "-0.504"  "1"     "1.57"    "1.13"
##                      "-0.505"  "2"     "2.89"    "1.763"
##                      "-0.505"  "2"     "2.89"    "1.763"
##                      "-0.505"  "6"     "7.37"    "2.714"
##                      "-0.505"  "43"    "45.97"   "5.885"
##                      "-0.505"  "3"     "3.87"    "1.721"
##                      "-0.506"  "35"    "38.04"   "6.012"
##                      "-0.506"  "10"    "11.62"   "3.2"
##                      "-0.506"  "2"     "2.93"    "1.838"
##                      "-0.509"  "11"    "12.83"   "3.593"
##                      "-0.509"  "15"    "16.99"   "3.909"
##                      "-0.509"  "22"    "24.3"    "4.518"
##                      "-0.51"   "0"     "0.51"    "0.718"
##                      "-0.51"   "0"     "0.51"    "0.628"
##                      "-0.51"   "0"     "0.51"    "0.718"
##                      "-0.51"   "0"     "0.51"    "0.628"
##                      "-0.51"   "0"     "0.51"    "0.659"
##                      "-0.51"   "0"     "0.51"    "0.759"
##                      "-0.51"   "0"     "0.51"    "0.732"
##                      "-0.51"   "0"     "0.51"    "0.732"
##                      "-0.51"   "0"     "0.51"    "0.745"
##                      "-0.51"   "1"     "1.69"    "1.354"
##                      "-0.51"   "0"     "0.51"    "0.718"
##                      "-0.51"   "0"     "0.51"    "0.732"
##                      "-0.51"   "1"     "1.61"    "1.197"
##                      "-0.51"   "0"     "0.51"    "0.718"
##                      "-0.51"   "0"     "0.51"    "0.718"
##                      "-0.511"  "2"     "2.91"    "1.781"
##                      "-0.511"  "4"     "5.06"    "2.073"
##                      "-0.512"  "3"     "4.17"    "2.283"
##                      "-0.513"  "6"     "7.34"    "2.61"
##                      "-0.513"  "6"     "7.21"    "2.358"
##                      "-0.513"  "83"    "87.5"    "8.774"
```

```
##                      "-0.513"  "4"     "5.15"    "2.24"
##                      "-0.513"  "1"     "1.69"    "1.346"
##                      "-0.513"  "2"     "2.79"    "1.539"
##                      "-0.513"  "10"    "11.76"   "3.429"
##                      "-0.514"  "2"     "2.83"    "1.615"
##                      "-0.517"  "127"   "132.52"  "10.68"
##                      "-0.517"  "157"   "163.42"  "12.429"
##                      "-0.518"  "1"     "1.62"    "1.196"
##                      "-0.518"  "3"     "4.21"    "2.337"
##                      "-0.519"  "11"    "12.68"   "3.238"
##                      "-0.52"   "0"     "0.52"    "0.717"
##                      "-0.52"   "1"     "1.67"    "1.288"
##                      "-0.52"   "0"     "0.52"    "0.674"
##                      "-0.52"   "0"     "0.52"    "0.659"
##                      "-0.52"   "0"     "0.52"    "0.717"
##                      "-0.52"   "0"     "0.52"    "0.759"
##                      "-0.52"   "3"     "3.9"     "1.732"
##                      "-0.52"   "0"     "0.52"    "0.643"
##                      "-0.52"   "1"     "1.6"     "1.155"
##                      "-0.52"   "0"     "0.52"    "0.717"
##                      "-0.52"   "0"     "0.52"    "0.659"
##                      "-0.52"   "0"     "0.52"    "0.627"
##                      "-0.52"   "0"     "0.52"    "0.772"
##                      "-0.52"   "0"     "0.52"    "0.689"
##                      "-0.52"   "1"     "1.67"    "1.288"
##                      "-0.52"   "0"     "0.52"    "0.703"
##                      "-0.52"   "0"     "0.52"    "0.627"
##                      "-0.52"   "0"     "0.52"    "0.627"
##                      "-0.52"   "0"     "0.52"    "0.627"
##                      "-0.521"  "1"     "1.61"    "1.171"
##                      "-0.525"  "1"     "1.64"    "1.219"
##                      "-0.525"  "17"    "19.06"   "3.92"
##                      "-0.525"  "3"     "4.04"    "1.979"
##                      "-0.526"  "1"     "1.87"    "1.655"
##                      "-0.526"  "12"    "13.78"   "3.386"
##                      "-0.527"  "1"     "1.59"    "1.12"
##                      "-0.528"  "27"    "29.73"   "5.173"
##                      "-0.529"  "2"     "2.84"    "1.587"
##                      "-0.529"  "2"     "2.84"    "1.587"
##                      "-0.53"   "0"     "0.53"    "0.771"
##                      "-0.53"   "0"     "0.53"    "0.703"
##                      "-0.53"   "0"     "0.53"    "0.643"
##                      "-0.53"   "0"     "0.53"    "0.658"
##                      "-0.53"   "0"     "0.53"    "0.717"
##                      "-0.53"   "0"     "0.53"    "0.643"
##                      "-0.531"  "6"     "7.25"    "2.354"
##                      "-0.532"  "16"    "18.31"   "4.341"
##                      "-0.534"  "7"     "8.51"    "2.83"
##                      "-0.534"  "3"     "4.09"    "2.04"
##                      "-0.534"  "9"     "10.55"   "2.904"
##                      "-0.535"  "8"     "9.49"    "2.787"
##                      "-0.535"  "257"   "266.56"  "17.859"
##                      "-0.536"  "271"   "279.45"  "15.763"
##                      "-0.537"  "3"     "4.12"    "2.085"
```

```
##                    "-0.539"  "1"    "1.63"    "1.169"
##                    "-0.54"   "0"    "0.54"    "0.717"
##                    "-0.54"   "0"    "0.54"    "0.797"
##                    "-0.54"   "0"    "0.54"    "0.797"
##                    "-0.54"   "0"    "0.54"    "0.731"
##                    "-0.54"   "0"    "0.54"    "0.758"
##                    "-0.54"   "0"    "0.54"    "0.717"
##                    "-0.54"   "0"    "0.54"    "0.731"
##                    "-0.54"   "0"    "0.54"    "0.784"
##                    "-0.54"   "0"    "0.54"    "0.673"
##                    "-0.54"   "1"    "1.76"    "1.408"
##                    "-0.54"   "0"    "0.54"    "0.642"
##                    "-0.54"   "0"    "0.54"    "0.784"
##                    "-0.54"   "0"    "0.54"    "0.702"
##                    "-0.54"   "1"    "1.76"    "1.408"
##                    "-0.541"  "1"    "1.61"    "1.127"
##                    "-0.542"  "1"    "1.62"    "1.144"
##                    "-0.543"  "20"   "22.11"   "3.887"
##                    "-0.544"  "151"  "157.55"  "12.031"
##                    "-0.549"  "1"    "1.68"    "1.238"
##                    "-0.55"   "0"    "0.55"    "0.77"
##                    "-0.55"   "0"    "0.55"    "0.77"
##                    "-0.55"   "37"   "40.11"   "5.658"
##                    "-0.55"   "0"    "0.55"    "0.783"
##                    "-0.55"   "0"    "0.55"    "0.702"
##                    "-0.55"   "0"    "0.55"    "0.716"
##                    "-0.55"   "0"    "0.55"    "0.702"
##                    "-0.55"   "0"    "0.55"    "0.783"
##                    "-0.55"   "0"    "0.55"    "0.702"
##                    "-0.55"   "0"    "0.55"    "0.716"
##                    "-0.55"   "0"    "0.55"    "0.757"
##                    "-0.55"   "0"    "0.55"    "0.73"
##                    "-0.55"   "0"    "0.55"    "0.77"
##                    "-0.55"   "0"    "0.55"    "0.702"
##                    "-0.55"   "0"    "0.55"    "0.857"
##                    "-0.55"   "0"    "0.55"    "0.716"
##                    "-0.55"   "0"    "0.55"    "0.73"
##                    "-0.551"  "47"   "50.56"   "6.456"
##                    "-0.551"  "1"    "1.76"    "1.379"
##                    "-0.551"  "1"    "1.76"    "1.379"
##                    "-0.552"  "2"    "2.81"    "1.468"
##                    "-0.552"  "84"   "88.89"   "8.853"
##                    "-0.553"  "2"    "2.97"    "1.755"
##                    "-0.553"  "2"    "2.97"    "1.755"
##                    "-0.553"  "2"    "2.97"    "1.755"
##                    "-0.554"  "4"    "5.2"     "2.165"
##                    "-0.555"  "3"    "4.1"     "1.982"
##                    "-0.557"  "2"    "2.99"    "1.778"
##                    "-0.559"  "1"    "1.77"    "1.377"
##                    "-0.559"  "5"    "6.27"    "2.273"
##                    "-0.56"   "0"    "0.56"    "0.77"
##                    "-0.56"   "0"    "0.56"    "0.833"
##                    "-0.56"   "0"    "0.56"    "0.686"
##                    "-0.56"   "0"    "0.56"    "0.686"
```

```
##                     "-0.56"   "0"     "0.56"     "0.743"
##                     "-0.56"   "0"     "0.56"     "0.756"
##                     "-0.56"   "0"     "0.56"     "0.77"
##                     "-0.56"   "0"     "0.56"     "0.743"
##                     "-0.56"   "0"     "0.56"     "0.671"
##                     "-0.56"   "0"     "0.56"     "0.686"
##                     "-0.56"   "0"     "0.56"     "0.671"
##                     "-0.56"   "0"     "0.56"     "0.701"
##                     "-0.56"   "0"     "0.56"     "0.686"
##                     "-0.56"   "0"     "0.56"     "0.671"
##                     "-0.56"   "0"     "0.56"     "0.686"
##                     "-0.56"   "0"     "0.56"     "0.671"
##                     "-0.56"   "0"     "0.56"     "0.729"
##                     "-0.56"   "0"     "0.56"     "0.715"
##                     "-0.56"   "0"     "0.56"     "0.77"
##                     "-0.56"   "0"     "0.56"     "0.743"
##                     "-0.56"   "0"     "0.56"     "0.701"
##                     "-0.56"   "0"     "0.56"     "0.729"
##                     "-0.56"   "0"     "0.56"     "0.77"
##                     "-0.56"   "0"     "0.56"     "0.729"
##                     "-0.56"   "0"     "0.56"     "0.715"
##                     "-0.56"   "0"     "0.56"     "0.743"
##                     "-0.56"   "0"     "0.56"     "0.77"
##                     "-0.56"   "0"     "0.56"     "0.77"
##                     "-0.561"  "8"     "9.76"     "3.137"
##                     "-0.561"  "1"     "1.75"     "1.336"
##                     "-0.562"  "58"    "61.88"    "6.904"
##                     "-0.562"  "1"     "1.84"     "1.496"
##                     "-0.562"  "11"    "13.15"    "3.825"
##                     "-0.563"  "2"     "2.79"     "1.402"
##                     "-0.563"  "7"     "8.45"     "2.576"
##                     "-0.564"  "3"     "4.18"     "2.091"
##                     "-0.564"  "12"    "13.95"    "3.456"
##                     "-0.567"  "102"   "108.34"   "11.189"
##                     "-0.567"  "1"     "1.82"     "1.445"
##                     "-0.569"  "7"     "8.64"     "2.883"
##                     "-0.569"  "1"     "1.74"     "1.3"
##                     "-0.569"  "1"     "1.74"     "1.3"
##                     "-0.57"   "0"     "0.57"     "0.655"
##                     "-0.57"   "0"     "0.57"     "0.671"
##                     "-0.57"   "0"     "0.57"     "0.82"
##                     "-0.57"   "0"     "0.57"     "0.7"
##                     "-0.57"   "0"     "0.57"     "0.714"
##                     "-0.57"   "0"     "0.57"     "0.671"
##                     "-0.57"   "1"     "1.91"     "1.596"
##                     "-0.57"   "0"     "0.57"     "0.742"
##                     "-0.57"   "0"     "0.57"     "0.82"
##                     "-0.57"   "0"     "0.57"     "0.671"
##                     "-0.57"   "0"     "0.57"     "0.671"
##                     "-0.57"   "0"     "0.57"     "0.769"
##                     "-0.57"   "0"     "0.57"     "0.671"
##                     "-0.57"   "0"     "0.57"     "0.756"
##                     "-0.57"   "0"     "0.57"     "0.728"
##                     "-0.57"   "0"     "0.57"     "0.728"
```

```
##                      "-0.57"   "0"     "0.57"    "0.742"
##                      "-0.57"   "0"     "0.57"    "0.728"
##                      "-0.57"   "0"     "0.57"    "0.7"
##                      "-0.57"   "0"     "0.57"    "0.7"
##                      "-0.572"  "5"     "6.41"    "2.466"
##                      "-0.573"  "12"    "14.06"   "3.598"
##                      "-0.574"  "1"     "1.64"    "1.115"
##                      "-0.576"  "5"     "6.45"    "2.516"
##                      "-0.576"  "119"   "125.81"  "11.819"
##                      "-0.577"  "4"     "5.23"    "2.131"
##                      "-0.577"  "4"     "5.37"    "2.373"
##                      "-0.578"  "10"    "11.88"   "3.254"
##                      "-0.578"  "1"     "1.7"     "1.21"
##                      "-0.579"  "10"    "12.1"    "3.625"
##                      "-0.58"   "0"     "0.58"    "0.768"
##                      "-0.58"   "0"     "0.58"    "0.794"
##                      "-0.58"   "0"     "0.58"    "0.684"
##                      "-0.58"   "0"     "0.58"    "0.901"
##                      "-0.58"   "0"     "0.58"    "0.768"
##                      "-0.58"   "0"     "0.58"    "0.768"
##                      "-0.58"   "0"     "0.58"    "0.768"
##                      "-0.58"   "78"    "82.95"   "8.534"
##                      "-0.58"   "0"     "0.58"    "0.768"
##                      "-0.58"   "0"     "0.58"    "0.794"
##                      "-0.58"   "0"     "0.58"    "0.855"
##                      "-0.58"   "0"     "0.58"    "0.806"
##                      "-0.58"   "0"     "0.58"    "0.713"
##                      "-0.58"   "0"     "0.58"    "0.878"
##                      "-0.58"   "0"     "0.58"    "0.713"
##                      "-0.58"   "0"     "0.58"    "0.831"
##                      "-0.58"   "0"     "0.58"    "0.768"
##                      "-0.58"   "0"     "0.58"    "0.831"
##                      "-0.58"   "0"     "0.58"    "0.669"
##                      "-0.581"  "13"    "15.58"   "4.439"
##                      "-0.582"  "1"     "1.73"    "1.254"
##                      "-0.583"  "1"     "1.84"    "1.441"
##                      "-0.584"  "295"   "308.09"  "22.414"
##                      "-0.584"  "2"     "2.8"     "1.371"
##                      "-0.585"  "7"     "8.63"    "2.784"
##                      "-0.585"  "36"    "38.95"   "5.046"
##                      "-0.587"  "95"    "100.44"  "9.266"
##                      "-0.59"   "14"    "16.47"   "4.184"
##                      "-0.59"   "0"     "0.59"    "0.753"
##                      "-0.59"   "2"     "3.09"    "1.848"
##                      "-0.59"   "0"     "0.59"    "0.712"
##                      "-0.59"   "0"     "0.59"    "0.793"
##                      "-0.59"   "0"     "0.59"    "0.793"
##                      "-0.59"   "0"     "0.59"    "0.767"
##                      "-0.59"   "0"     "0.59"    "0.683"
##                      "-0.59"   "0"     "0.59"    "0.753"
##                      "-0.59"   "0"     "0.59"    "0.805"
##                      "-0.59"   "0"     "0.59"    "0.793"
##                      "-0.59"   "0"     "0.59"    "0.818"
##                      "-0.59"   "0"     "0.59"    "0.74"
```

```
##                    "-0.59"   "0"    "0.59"    "0.805"
##                    "-0.59"   "0"    "0.59"    "0.753"
##                    "-0.591"  "42"   "45.85"   "6.511"
##                    "-0.591"  "1"    "1.74"    "1.252"
##                    "-0.592"  "1"    "1.71"    "1.2"
##                    "-0.595"  "1"    "1.7"     "1.176"
##                    "-0.596"  "14"   "16.5"    "4.191"
##                    "-0.596"  "1"    "1.83"    "1.393"
##                    "-0.598"  "3"    "4.13"    "1.889"
##                    "-0.598"  "2"    "2.98"    "1.639"
##                    "-0.598"  "2"    "2.98"    "1.639"
##                    "-0.598"  "2"    "2.98"    "1.639"
##                    "-0.598"  "2"    "2.98"    "1.639"
##                    "-0.598"  "2"    "2.98"    "1.639"
##                    "-0.599"  "1"    "1.7"     "1.168"
##                    "-0.599"  "1"    "1.77"    "1.286"
##                    "-0.6"    "0"    "0.6"     "0.804"
##                    "-0.6"    "0"    "0.6"     "0.804"
##                    "-0.6"    "0"    "0.6"     "0.804"
##                    "-0.6"    "0"    "0.6"     "0.804"
##                    "-0.6"    "0"    "0.6"     "0.752"
##                    "-0.6"    "0"    "0.6"     "0.791"
##                    "-0.6"    "0"    "0.6"     "0.725"
##                    "-0.6"    "0"    "0.6"     "0.804"
##                    "-0.6"    "0"    "0.6"     "0.804"
##                    "-0.6"    "0"    "0.6"     "0.752"
##                    "-0.6"    "0"    "0.6"     "0.739"
##                    "-0.6"    "0"    "0.6"     "0.739"
##                    "-0.6"    "0"    "0.6"     "0.739"
##                    "-0.6"    "0"    "0.6"     "0.778"
##                    "-0.6"    "0"    "0.6"     "0.739"
##                    "-0.6"    "0"    "0.6"     "0.778"
##                    "-0.6"    "0"    "0.6"     "0.739"
##                    "-0.602"  "2"    "3.07"    "1.777"
##                    "-0.603"  "1"    "1.85"    "1.41"
##                    "-0.605"  "4"    "5.21"    "2.001"
##                    "-0.605"  "20"   "23.11"   "5.136"
##                    "-0.607"  "2"    "2.99"    "1.63"
##                    "-0.607"  "3"    "4.1"     "1.812"
##                    "-0.608"  "1"    "1.89"    "1.463"
##                    "-0.609"  "31"   "34.52"   "5.781"
##                    "-0.61"   "0"    "0.61"    "0.737"
##                    "-0.61"   "18"   "20.47"   "4.046"
##                    "-0.61"   "0"    "0.61"    "0.777"
##                    "-0.61"   "0"    "0.61"    "0.723"
##                    "-0.61"   "0"    "0.61"    "0.815"
##                    "-0.61"   "0"    "0.61"    "0.737"
##                    "-0.61"   "0"    "0.61"    "0.764"
##                    "-0.61"   "0"    "0.61"    "0.852"
##                    "-0.612"  "13"   "15.7"    "4.414"
##                    "-0.612"  "7"    "8.79"    "2.924"
##                    "-0.612"  "1"    "1.83"    "1.356"
##                    "-0.615"  "31"   "34.28"   "5.337"
##                    "-0.616"  "5"    "6.35"    "2.19"
```

```
##                    "-0.617"  "1"    "1.82"    "1.329"
##                    "-0.617"  "3"    "4.21"    "1.961"
##                    "-0.618"  "5"    "6.65"    "2.668"
##                    "-0.619"  "202"  "210.76"  "14.152"
##                    "-0.62"   "0"    "0.62"    "0.85"
##                    "-0.62"   "0"    "0.62"    "0.826"
##                    "-0.62"   "0"    "0.62"    "0.776"
##                    "-0.62"   "0"    "0.62"    "0.763"
##                    "-0.62"   "0"    "0.62"    "0.789"
##                    "-0.62"   "0"    "0.62"    "0.838"
##                    "-0.62"   "0"    "0.62"    "0.874"
##                    "-0.62"   "0"    "0.62"    "0.801"
##                    "-0.62"   "4"    "5.26"    "2.033"
##                    "-0.62"   "4"    "5.26"    "2.033"
##                    "-0.62"   "0"    "0.62"    "0.776"
##                    "-0.62"   "0"    "0.62"    "0.789"
##                    "-0.62"   "0"    "0.62"    "0.736"
##                    "-0.62"   "0"    "0.62"    "0.789"
##                    "-0.62"   "0"    "0.62"    "0.826"
##                    "-0.621"  "19"   "22.2"    "5.15"
##                    "-0.624"  "4"    "5.38"    "2.21"
##                    "-0.625"  "3"    "4.33"    "2.128"
##                    "-0.626"  "25"   "28.36"   "5.368"
##                    "-0.627"  "72"   "77.61"   "8.944"
##                    "-0.628"  "2"    "3.23"    "1.958"
##                    "-0.628"  "2"    "3.17"    "1.864"
##                    "-0.629"  "37"   "40.58"   "5.689"
##                    "-0.63"   "0"    "0.63"    "0.8"
##                    "-0.63"   "0"    "0.63"    "0.812"
##                    "-0.63"   "0"    "0.63"    "0.734"
##                    "-0.63"   "0"    "0.63"    "0.734"
##                    "-0.63"   "0"    "0.63"    "0.787"
##                    "-0.63"   "0"    "0.63"    "0.734"
##                    "-0.63"   "3"    "4.3"     "2.062"
##                    "-0.63"   "0"    "0.63"    "0.812"
##                    "-0.63"   "0"    "0.63"    "0.734"
##                    "-0.63"   "0"    "0.63"    "0.8"
##                    "-0.631"  "1"    "1.84"    "1.331"
##                    "-0.631"  "1"    "1.84"    "1.331"
##                    "-0.631"  "20"   "23.08"   "4.88"
##                    "-0.631"  "1"    "1.78"    "1.236"
##                    "-0.631"  "12"   "14.45"   "3.88"
##                    "-0.632"  "23"   "25.78"   "4.401"
##                    "-0.632"  "2"    "3.22"    "1.931"
##                    "-0.632"  "175"  "183.11"  "12.827"
##                    "-0.632"  "15"   "17.53"   "4.004"
##                    "-0.634"  "4"    "5.56"    "2.459"
##                    "-0.634"  "51"   "55.41"   "6.952"
##                    "-0.635"  "12"   "14.07"   "3.261"
##                    "-0.635"  "2"    "3.06"    "1.669"
##                    "-0.638"  "47"   "51.55"   "7.13"
##                    "-0.639"  "317"  "328.45"  "17.907"
##                    "-0.639"  "12"   "14.26"   "3.538"
##                    "-0.64"   "0"    "0.64"    "0.811"
```

```
##                      "-0.64"   "0"    "0.64"    "0.811"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.746"
##                      "-0.64"   "0"    "0.64"    "0.704"
##                      "-0.64"   "4"    "5.71"    "2.672"
##                      "-0.64"   "0"    "0.64"    "0.759"
##                      "-0.64"   "0"    "0.64"    "0.811"
##                      "-0.64"   "0"    "0.64"    "0.859"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.704"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.746"
##                      "-0.64"   "0"    "0.64"    "0.823"
##                      "-0.64"   "0"    "0.64"    "0.746"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.704"
##                      "-0.64"   "0"    "0.64"    "0.811"
##                      "-0.64"   "0"    "0.64"    "0.759"
##                      "-0.64"   "0"    "0.64"    "0.732"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.64"   "0"    "0.64"    "0.798"
##                      "-0.641"  "2"    "3.13"    "1.762"
##                      "-0.641"  "3"    "4.29"    "2.012"
##                      "-0.641"  "5"    "6.53"    "2.389"
##                      "-0.642"  "2"    "3.14"    "1.775"
##                      "-0.642"  "44"   "48.94"   "7.695"
##                      "-0.644"  "1"    "1.97"    "1.507"
##                      "-0.645"  "1"    "1.92"    "1.426"
##                      "-0.645"  "2"    "3.12"    "1.737"
##                      "-0.645"  "2"    "3.12"    "1.737"
##                      "-0.645"  "1"    "1.92"    "1.426"
##                      "-0.645"  "2"    "3.12"    "1.737"
##                      "-0.645"  "1"    "1.92"    "1.426"
##                      "-0.645"  "1"    "1.92"    "1.426"
##                      "-0.646"  "1"    "1.97"    "1.501"
##                      "-0.646"  "1"    "1.97"    "1.501"
##                      "-0.646"  "3"    "4.31"    "2.029"
##                      "-0.647"  "1"    "1.96"    "1.483"
##                      "-0.647"  "11"   "13.48"   "3.831"
##                      "-0.647"  "1"    "1.81"    "1.253"
##                      "-0.648"  "7"    "8.87"    "2.887"
##                      "-0.648"  "3"    "4.25"    "1.93"
##                      "-0.648"  "1"    "1.88"    "1.358"
##                      "-0.648"  "5"    "6.63"    "2.517"
```

```
##                    "-0.65"   "0"    "0.65"   "0.783"
##                    "-0.65"   "0"    "0.65"   "0.757"
##                    "-0.65"   "0"    "0.65"   "0.77"
##                    "-0.65"   "0"    "0.65"   "0.869"
##                    "-0.65"   "0"    "0.65"   "0.744"
##                    "-0.65"   "0"    "0.65"   "0.869"
##                    "-0.65"   "5"    "6.46"   "2.245"
##                    "-0.65"   "0"    "0.65"   "0.77"
##                    "-0.65"   "0"    "0.65"   "0.845"
##                    "-0.65"   "0"    "0.65"   "0.809"
##                    "-0.65"   "0"    "0.65"   "0.77"
##                    "-0.65"   "0"    "0.65"   "0.77"
##                    "-0.65"   "3"    "4.32"   "2.029"
##                    "-0.65"   "0"    "0.65"   "0.892"
##                    "-0.65"   "0"    "0.65"   "0.77"
##                    "-0.652"  "15"   "17.7"   "4.14"
##                    "-0.653"  "42"   "45.98"  "6.092"
##                    "-0.654"  "1"    "1.87"   "1.331"
##                    "-0.655"  "1"    "1.85"   "1.298"
##                    "-0.655"  "5"    "6.59"   "2.429"
##                    "-0.655"  "7"    "8.81"   "2.762"
##                    "-0.657"  "58"   "63.34"  "8.127"
##                    "-0.66"   "0"    "0.66"   "0.781"
##                    "-0.66"   "0"    "0.66"   "0.807"
##                    "-0.66"   "0"    "0.66"   "0.768"
##                    "-0.66"   "1"    "2.03"   "1.56"
##                    "-0.66"   "0"    "0.66"   "0.819"
##                    "-0.66"   "0"    "0.66"   "0.655"
##                    "-0.66"   "0"    "0.66"   "0.831"
##                    "-0.66"   "0"    "0.66"   "0.781"
##                    "-0.66"   "1"    "2.03"   "1.56"
##                    "-0.66"   "0"    "0.66"   "0.714"
##                    "-0.66"   "0"    "0.66"   "0.655"
##                    "-0.663"  "1"    "1.76"   "1.147"
##                    "-0.666"  "56"   "60.64"  "6.971"
##                    "-0.669"  "17"   "19.94"  "4.397"
##                    "-0.67"   "0"    "0.67"   "0.865"
##                    "-0.67"   "0"    "0.67"   "0.805"
##                    "-0.67"   "0"    "0.67"   "0.877"
##                    "-0.67"   "0"    "0.67"   "0.779"
##                    "-0.67"   "0"    "0.67"   "0.726"
##                    "-0.67"   "0"    "0.67"   "0.829"
##                    "-0.67"   "0"    "0.67"   "0.829"
##                    "-0.67"   "0"    "0.67"   "0.779"
##                    "-0.67"   "0"    "0.67"   "0.911"
##                    "-0.67"   "0"    "0.67"   "0.726"
##                    "-0.67"   "3"    "4.42"   "2.119"
##                    "-0.67"   "0"    "0.67"   "0.779"
##                    "-0.67"   "0"    "0.67"   "0.792"
##                    "-0.671"  "38"   "42.36"  "6.496"
##                    "-0.673"  "1"    "1.98"   "1.456"
##                    "-0.673"  "15"   "17.97"  "4.416"
##                    "-0.673"  "6"    "7.84"   "2.733"
##                    "-0.673"  "1"    "1.98"   "1.456"
```

```
##                      "-0.673"  "11"   "13.58"   "3.833"
##                      "-0.673"  "8"    "10"      "2.971"
##                      "-0.673"  "1"    "1.98"    "1.456"
##                      "-0.674"  "9"    "11.61"   "3.871"
##                      "-0.676"  "8"    "10.24"   "3.312"
##                      "-0.676"  "10"   "12.19"   "3.24"
##                      "-0.677"  "2"    "3.22"    "1.801"
##                      "-0.677"  "1"    "1.9"     "1.33"
##                      "-0.678"  "71"   "76.79"   "8.534"
##                      "-0.679"  "4"    "5.43"    "2.105"
##                      "-0.68"   "1"    "2.12"    "1.647"
##                      "-0.68"   "1"    "2.12"    "1.647"
##                      "-0.68"   "0"    "0.68"    "0.803"
##                      "-0.68"   "0"    "0.68"    "0.909"
##                      "-0.68"   "0"    "0.68"    "0.851"
##                      "-0.68"   "0"    "0.68"    "0.827"
##                      "-0.68"   "0"    "0.68"    "0.827"
##                      "-0.68"   "0"    "0.68"    "0.803"
##                      "-0.68"   "0"    "0.68"    "0.803"
##                      "-0.68"   "0"    "0.68"    "0.803"
##                      "-0.68"   "0"    "0.68"    "0.851"
##                      "-0.68"   "0"    "0.68"    "0.815"
##                      "-0.68"   "0"    "0.68"    "0.79"
##                      "-0.681"  "4"    "5.69"    "2.481"
##                      "-0.681"  "51"   "56.45"   "8.002"
##                      "-0.682"  "5"    "6.7"     "2.492"
##                      "-0.682"  "13"   "15.67"   "3.916"
##                      "-0.682"  "13"   "15.67"   "3.916"
##                      "-0.683"  "16"   "18.61"   "3.819"
##                      "-0.683"  "11"   "13.79"   "4.086"
##                      "-0.684"  "1"    "1.97"    "1.417"
##                      "-0.686"  "13"   "15.75"   "4.011"
##                      "-0.686"  "97"   "103.39"  "9.315"
##                      "-0.686"  "1"    "1.87"    "1.269"
##                      "-0.69"   "0"    "0.69"    "0.837"
##                      "-0.69"   "0"    "0.69"    "0.8"
##                      "-0.69"   "0"    "0.69"    "0.837"
##                      "-0.69"   "0"    "0.69"    "0.813"
##                      "-0.69"   "0"    "0.69"    "0.8"
##                      "-0.69"   "0"    "0.69"    "0.692"
##                      "-0.69"   "0"    "0.69"    "0.761"
##                      "-0.69"   "0"    "0.69"    "0.825"
##                      "-0.69"   "0"    "0.69"    "0.787"
##                      "-0.69"   "0"    "0.69"    "0.8"
##                      "-0.69"   "0"    "0.69"    "0.813"
##                      "-0.691"  "4"    "5.51"    "2.186"
##                      "-0.692"  "43"   "47.7"    "6.796"
##                      "-0.693"  "2"    "3.34"    "1.934"
##                      "-0.693"  "3"    "4.46"    "2.105"
##                      "-0.693"  "2"    "3.26"    "1.818"
##                      "-0.693"  "12"   "14.78"   "4.014"
##                      "-0.698"  "16"   "18.72"   "3.895"
##                      "-0.7"    "0"    "0.7"     "0.859"
##                      "-0.7"    "0"    "0.7"     "0.798"
```

```
##                     "-0.7"    "0"     "0.7"     "0.823"
##                     "-0.7"    "0"     "0.7"     "0.823"
##                     "-0.7"    "0"     "0.7"     "0.823"
##                     "-0.7"    "0"     "0.7"     "0.823"
##                     "-0.7"    "0"     "0.7"     "0.732"
##                     "-0.7"    "0"     "0.7"     "0.859"
##                     "-0.7"    "0"     "0.7"     "0.882"
##                     "-0.702"  "168"   "178.11"  "14.393"
##                     "-0.704"  "4"     "5.74"    "2.473"
##                     "-0.705"  "7"     "9.15"    "3.05"
##                     "-0.706"  "4"     "5.51"    "2.139"
##                     "-0.709"  "3"     "4.44"    "2.032"
##                     "-0.71"   "0"     "0.71"    "0.868"
##                     "-0.71"   "0"     "0.71"    "0.743"
##                     "-0.71"   "0"     "0.71"    "0.701"
##                     "-0.71"   "0"     "0.71"    "0.891"
##                     "-0.71"   "0"     "0.71"    "0.967"
##                     "-0.71"   "0"     "0.71"    "0.844"
##                     "-0.71"   "0"     "0.71"    "0.856"
##                     "-0.71"   "0"     "0.71"    "0.891"
##                     "-0.71"   "0"     "0.71"    "0.756"
##                     "-0.71"   "0"     "0.71"    "0.891"
##                     "-0.71"   "0"     "0.71"    "0.891"
##                     "-0.71"   "0"     "0.71"    "0.891"
##                     "-0.71"   "0"     "0.71"    "0.844"
##                     "-0.71"   "0"     "0.71"    "0.891"
##                     "-0.711"  "3"     "4.69"    "2.377"
##                     "-0.713"  "1"     "2.05"    "1.473"
##                     "-0.714"  "1"     "2.02"    "1.428"
##                     "-0.714"  "5"     "6.77"    "2.478"
##                     "-0.715"  "5"     "6.96"    "2.741"
##                     "-0.715"  "65"    "70.33"   "7.454"
##                     "-0.715"  "3"     "4.35"    "1.888"
##                     "-0.715"  "16"    "19.34"   "4.671"
##                     "-0.715"  "12"    "14.56"   "3.583"
##                     "-0.716"  "2"     "3.41"    "1.97"
##                     "-0.716"  "4"     "5.75"    "2.443"
##                     "-0.716"  "2"     "3.31"    "1.83"
##                     "-0.717"  "2"     "3.15"    "1.604"
##                     "-0.718"  "1"     "2.12"    "1.559"
##                     "-0.718"  "1"     "1.88"    "1.225"
##                     "-0.719"  "46"    "51.63"   "7.827"
##                     "-0.719"  "1"     "2.2"     "1.67"
##                     "-0.72"   "0"     "0.72"    "0.954"
##                     "-0.72"   "3"     "4.47"    "2.042"
##                     "-0.72"   "0"     "0.72"    "0.866"
##                     "-0.72"   "0"     "0.72"    "0.922"
##                     "-0.72"   "0"     "0.72"    "0.817"
##                     "-0.72"   "0"     "0.72"    "0.922"
##                     "-0.72"   "0"     "0.72"    "0.866"
##                     "-0.72"   "0"     "0.72"    "0.922"
##                     "-0.72"   "0"     "0.72"    "0.922"
##                     "-0.72"   "0"     "0.72"    "0.805"
##                     "-0.722"  "14"    "17.08"   "4.266"
```

```
##                          "-0.722"   "56"     "61.73"    "7.942"
##                          "-0.722"   "2"      "3.25"     "1.731"
##                          "-0.723"   "2"      "3.32"     "1.825"
##                          "-0.726"   "11"     "13.76"    "3.801"
##                          "-0.727"   "11"     "13.65"    "3.647"
##                          "-0.728"   "4"      "5.72"     "2.362"
##                          "-0.73"    "0"      "0.73"     "0.839"
##                          "-0.73"    "1"      "1.92"     "1.261"
##                          "-0.73"    "0"      "0.73"     "0.874"
##                          "-0.73"    "0"      "0.73"     "0.679"
##                          "-0.73"    "0"      "0.73"     "0.973"
##                          "-0.73"    "0"      "0.73"     "0.874"
##                          "-0.73"    "0"      "0.73"     "0.763"
##                          "-0.73"    "0"      "0.73"     "0.897"
##                          "-0.73"    "0"      "0.73"     "0.815"
##                          "-0.73"    "110"    "117.86"   "10.768"
##                          "-0.73"    "0"      "0.73"     "0.897"
##                          "-0.73"    "0"      "0.73"     "0.863"
##                          "-0.73"    "0"      "0.73"     "0.897"
##                          "-0.73"    "0"      "0.73"     "0.897"
##                          "-0.73"    "0"      "0.73"     "0.874"
##                          "-0.73"    "0"      "0.73"     "0.897"
##                          "-0.73"    "0"      "0.73"     "0.941"
##                          "-0.732"   "17"     "20.03"    "4.14"
##                          "-0.735"   "37"     "41.73"    "6.432"
##                          "-0.736"   "61"     "66.89"    "8.006"
##                          "-0.737"   "4"      "5.68"     "2.278"
##                          "-0.738"   "5"      "6.89"     "2.562"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.738"   "2"      "3.54"     "2.086"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.738"   "1"      "2.09"     "1.478"
##                          "-0.739"   "11"     "13.26"    "3.057"
##                          "-0.74"    "0"      "0.74"     "0.812"
##                          "-0.74"    "7"      "9.15"     "2.907"
##                          "-0.74"    "0"      "0.74"     "0.848"
##                          "-0.74"    "0"      "0.74"     "0.787"
##                          "-0.74"    "0"      "0.74"     "0.895"
##                          "-0.74"    "0"      "0.74"     "0.939"
##                          "-0.74"    "0"      "0.74"     "0.848"
##                          "-0.74"    "6"      "8.08"     "2.809"
##                          "-0.74"    "17"     "20.4"     "4.597"
##                          "-0.74"    "0"      "0.74"     "0.883"
##                          "-0.74"    "0"      "0.74"     "0.86"
##                          "-0.74"    "0"      "0.74"     "0.917"
##                          "-0.74"    "0"      "0.74"     "0.96"
##                          "-0.74"    "0"      "0.74"     "0.787"
##                          "-0.74"    "0"      "0.74"     "0.824"
```

```
##                    "-0.74"   "0"    "0.74"     "0.939"
##                    "-0.74"   "0"    "0.74"     "0.895"
##                    "-0.74"   "0"    "0.74"     "0.86"
##                    "-0.74"   "0"    "0.74"     "0.96"
##                    "-0.741"  "4"    "5.83"     "2.47"
##                    "-0.742"  "2"    "3.37"     "1.846"
##                    "-0.744"  "1"    "1.98"     "1.318"
##                    "-0.744"  "1"    "2.02"     "1.371"
##                    "-0.746"  "7"    "9.2"      "2.947"
##                    "-0.746"  "94"   "100.65"   "8.916"
##                    "-0.746"  "92"   "99.6"     "10.188"
##                    "-0.747"  "8"    "10.46"    "3.295"
##                    "-0.748"  "9"    "11.37"    "3.168"
##                    "-0.749"  "7"    "9.13"     "2.845"
##                    "-0.75"   "0"    "0.75"     "0.796"
##                    "-0.75"   "0"    "0.75"     "0.821"
##                    "-0.75"   "0"    "0.75"     "0.783"
##                    "-0.75"   "0"    "0.75"     "0.783"
##                    "-0.75"   "0"    "0.75"     "0.783"
##                    "-0.75"   "0"    "0.75"     "0.796"
##                    "-0.75"   "0"    "0.75"     "0.796"
##                    "-0.75"   "0"    "0.75"     "0.783"
##                    "-0.75"   "0"    "0.75"     "0.796"
##                    "-0.75"   "0"    "0.75"     "0.783"
##                    "-0.75"   "0"    "0.75"     "0.783"
##                    "-0.75"   "0"    "0.75"     "0.796"
##                    "-0.75"   "0"    "0.75"     "0.833"
##                    "-0.75"   "0"    "0.75"     "0.892"
##                    "-0.751"  "8"    "10.53"    "3.368"
##                    "-0.751"  "4"    "5.68"     "2.238"
##                    "-0.757"  "2"    "3.23"     "1.626"
##                    "-0.757"  "1"    "2.02"     "1.348"
##                    "-0.757"  "1"    "2.08"     "1.426"
##                    "-0.758"  "2"    "3.43"     "1.887"
##                    "-0.758"  "2"    "3.31"     "1.727"
##                    "-0.758"  "3"    "4.58"     "2.085"
##                    "-0.758"  "3"    "4.58"     "2.085"
##                    "-0.759"  "2"    "3.52"     "2.002"
##                    "-0.759"  "16"   "19.25"    "4.281"
##                    "-0.759"  "29"   "33.31"    "5.681"
##                    "-0.759"  "2"    "3.39"     "1.831"
##                    "-0.76"   "0"    "0.76"     "0.842"
##                    "-0.76"   "0"    "0.76"     "0.866"
##                    "-0.76"   "16"   "19.5"     "4.605"
##                    "-0.76"   "21"   "24.76"    "4.948"
##                    "-0.76"   "0"    "0.76"     "0.911"
##                    "-0.76"   "0"    "0.76"     "0.911"
##                    "-0.76"   "0"    "0.76"     "0.9"
##                    "-0.76"   "0"    "0.76"     "0.866"
##                    "-0.76"   "0"    "0.76"     "0.866"
##                    "-0.76"   "0"    "0.76"     "0.866"
##                    "-0.76"   "0"    "0.76"     "0.78"
##                    "-0.76"   "0"    "0.76"     "0.944"
##                    "-0.76"   "0"    "0.76"     "0.78"
```

```
##                     "-0.76"   "0"    "0.76"   "0.83"
##                     "-0.76"   "0"    "0.76"   "0.78"
##                     "-0.761"  "54"   "59.46"  "7.174"
##                     "-0.761"  "2"    "3.44"   "1.893"
##                     "-0.762"  "18"   "21.6"   "4.725"
##                     "-0.762"  "3"    "4.61"   "2.112"
##                     "-0.762"  "1"    "2.16"   "1.522"
##                     "-0.762"  "1"    "2.06"   "1.391"
##                     "-0.763"  "1"    "2.09"   "1.429"
##                     "-0.763"  "3"    "4.52"   "1.992"
##                     "-0.763"  "3"    "4.52"   "1.992"
##                     "-0.763"  "3"    "4.52"   "1.992"
##                     "-0.764"  "1"    "2.2"    "1.57"
##                     "-0.766"  "1"    "1.97"   "1.267"
##                     "-0.766"  "1"    "2.06"   "1.384"
##                     "-0.768"  "80"   "86.74"  "8.777"
##                     "-0.768"  "21"   "24.76"  "4.897"
##                     "-0.769"  "4"    "5.74"   "2.264"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.908"
##                     "-0.77"   "0"    "0.77"   "0.886"
##                     "-0.77"   "1"    "2.13"   "1.468"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.92"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.863"
##                     "-0.77"   "0"    "0.77"   "0.863"
##                     "-0.77"   "0"    "0.77"   "0.863"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.952"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.763"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.839"
##                     "-0.77"   "0"    "0.77"   "0.952"
##                     "-0.77"   "0"    "0.77"   "0.886"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.839"
##                     "-0.77"   "0"    "0.77"   "0.815"
##                     "-0.77"   "0"    "0.77"   "0.827"
##                     "-0.77"   "0"    "0.77"   "0.763"
##                     "-0.77"   "0"    "0.77"   "0.827"
```

```
##                      "-0.77"   "0"    "0.77"    "0.827"
##                      "-0.77"   "0"    "0.77"    "0.827"
##                      "-0.771"  "1"    "2.17"    "1.518"
##                      "-0.772"  "2"    "3.44"    "1.866"
##                      "-0.772"  "3"    "4.47"    "1.904"
##                      "-0.774"  "2"    "3.24"    "1.603"
##                      "-0.775"  "11"   "13.79"   "3.602"
##                      "-0.776"  "1"    "2.16"    "1.496"
##                      "-0.78"   "0"    "0.78"    "0.98"
##                      "-0.78"   "0"    "0.78"    "0.894"
##                      "-0.78"   "0"    "0.78"    "0.848"
##                      "-0.78"   "0"    "0.78"    "0.848"
##                      "-0.78"   "0"    "0.78"    "0.811"
##                      "-0.78"   "0"    "0.78"    "0.917"
##                      "-0.78"   "0"    "0.78"    "0.824"
##                      "-0.78"   "0"    "0.78"    "0.824"
##                      "-0.78"   "0"    "0.78"    "0.905"
##                      "-0.78"   "0"    "0.78"    "0.824"
##                      "-0.78"   "0"    "0.78"    "0.883"
##                      "-0.78"   "0"    "0.78"    "0.811"
##                      "-0.782"  "7"    "9.29"    "2.928"
##                      "-0.782"  "12"   "14.61"   "3.336"
##                      "-0.783"  "2"    "3.57"    "2.006"
##                      "-0.784"  "7"    "9.68"    "3.417"
##                      "-0.788"  "2"    "3.39"    "1.763"
##                      "-0.789"  "9"    "11.51"   "3.18"
##                      "-0.79"   "11"   "14.05"   "3.862"
##                      "-0.79"   "2"    "3.36"    "1.72"
##                      "-0.79"   "0"    "0.79"    "0.967"
##                      "-0.79"   "0"    "0.79"    "0.967"
##                      "-0.79"   "0"    "0.79"    "0.967"
##                      "-0.79"   "0"    "0.79"    "0.967"
##                      "-0.79"   "0"    "0.79"    "0.967"
##                      "-0.79"   "0"    "0.79"    "0.82"
##                      "-0.79"   "0"    "0.79"    "0.808"
##                      "-0.79"   "0"    "0.79"    "0.844"
##                      "-0.79"   "0"    "0.79"    "0.715"
##                      "-0.79"   "0"    "0.79"    "0.808"
##                      "-0.79"   "4"    "5.84"    "2.33"
##                      "-0.79"   "0"    "0.79"    "0.946"
##                      "-0.79"   "0"    "0.79"    "0.967"
##                      "-0.79"   "0"    "0.79"    "0.924"
##                      "-0.79"   "0"    "0.79"    "0.967"
##                      "-0.79"   "11"   "14.05"   "3.862"
##                      "-0.79"   "0"    "0.79"    "0.844"
##                      "-0.791"  "1"    "2.06"    "1.34"
##                      "-0.792"  "2"    "3.5"     "1.894"
##                      "-0.792"  "88"   "96.36"   "10.554"
##                      "-0.793"  "0"    "0.81"    "1.022"
##                      "-0.794"  "3"    "4.82"    "2.294"
##                      "-0.794"  "0"    "0.83"    "1.045"
##                      "-0.795"  "22"   "25.97"   "4.992"
##                      "-0.796"  "15"   "17.79"   "3.506"
##                      "-0.796"  "4"    "5.81"    "2.273"
```

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```
##                    "-0.796"  "1"    "2.35"    "1.696"
##                    "-0.796"  "1"    "2.35"    "1.696"
##                    "-0.797"  "2"    "3.53"    "1.92"
##                    "-0.797"  "8"    "10.31"   "2.898"
##                    "-0.798"  "1"    "2.29"    "1.616"
##                    "-0.798"  "1"    "2.22"    "1.528"
##                    "-0.798"  "115"  "124.61"  "12.043"
##                    "-0.799"  "1"    "2.09"    "1.364"
##                    "-0.799"  "1"    "2.09"    "1.364"
##                    "-0.799"  "2"    "3.47"    "1.839"
##                    "-0.799"  "1"    "2.09"    "1.364"
##                    "-0.8"    "0"    "0.8"     "0.899"
##                    "-0.8"    "0"    "0.8"     "0.974"
##                    "-0.8"    "0"    "0.8"     "0.943"
##                    "-0.8"    "276"  "289.32"  "16.642"
##                    "-0.8"    "2"    "3.52"    "1.899"
##                    "-0.8"    "0"    "0.8"     "0.876"
##                    "-0.8"    "0"    "0.8"     "0.865"
##                    "-0.8"    "0"    "0.8"     "0.829"
##                    "-0.8"    "0"    "0.8"     "0.791"
##                    "-0.8"    "0"    "0.8"     "0.888"
##                    "-0.8"    "0"    "0.8"     "0.765"
##                    "-0.8"    "0"    "0.8"     "0.791"
##                    "-0.8"    "0"    "0.8"     "0.921"
##                    "-0.8"    "0"    "0.8"     "0.964"
##                    "-0.8"    "1"    "2.06"    "1.324"
##                    "-0.8"    "0"    "0.8"     "0.853"
##                    "-0.801"  "1"    "2.23"    "1.536"
##                    "-0.801"  "1"    "2.23"    "1.536"
##                    "-0.801"  "1"    "2.18"    "1.473"
##                    "-0.801"  "1"    "2.23"    "1.536"
##                    "-0.804"  "2"    "3.41"    "1.753"
##                    "-0.804"  "1"    "2.15"    "1.431"
##                    "-0.804"  "12"   "14.81"   "3.495"
##                    "-0.805"  "3"    "4.57"    "1.95"
##                    "-0.806"  "14"   "17.35"   "4.155"
##                    "-0.806"  "7"    "9.36"    "2.929"
##                    "-0.806"  "7"    "9.36"    "2.929"
##                    "-0.806"  "7"    "9.36"    "2.929"
##                    "-0.809"  "21"   "24.98"   "4.917"
##                    "-0.809"  "1"    "2.27"    "1.569"
##                    "-0.81"   "2"    "3.36"    "1.679"
##                    "-0.81"   "2"    "3.36"    "1.679"
##                    "-0.81"   "2"    "3.36"    "1.679"
##                    "-0.81"   "0"    "0.81"    "0.907"
##                    "-0.81"   "2"    "3.36"    "1.679"
##                    "-0.81"   "2"    "3.36"    "1.679"
##                    "-0.81"   "0"    "0.81"    "0.918"
##                    "-0.81"   "0"    "0.81"    "0.907"
##                    "-0.81"   "0"    "0.81"    "0.849"
##                    "-0.81"   "0"    "0.81"    "0.929"
##                    "-0.81"   "0"    "0.81"    "0.918"
##                    "-0.812"  "31"   "36.03"   "6.191"
##                    "-0.812"  "1"    "2.09"    "1.342"
```

```
##                      "-0.813"  "1"    "2.27"    "1.563"
##                      "-0.813"  "1"    "2.18"    "1.452"
##                      "-0.813"  "1"    "2.18"    "1.452"
##                      "-0.813"  "19"   "22.51"   "4.319"
##                      "-0.814"  "13"   "15.88"   "3.537"
##                      "-0.814"  "49"   "54.65"   "6.937"
##                      "-0.814"  "2"    "3.29"    "1.585"
##                      "-0.815"  "19"   "22.55"   "4.354"
##                      "-0.816"  "48"   "53.74"   "7.038"
##                      "-0.816"  "60"   "66.48"   "7.939"
##                      "-0.816"  "31"   "35.57"   "5.602"
##                      "-0.817"  "464"  "483.16"  "23.461"
##                      "-0.819"  "5"    "7.05"    "2.504"
##                      "-0.82"   "0"    "0.82"    "0.857"
##                      "-0.82"   "0"    "0.82"    "0.903"
##                      "-0.82"   "0"    "0.82"    "0.857"
##                      "-0.82"   "0"    "0.82"    "0.869"
##                      "-0.82"   "0"    "0.82"    "0.809"
##                      "-0.82"   "0"    "0.82"    "0.903"
##                      "-0.82"   "0"    "0.82"    "0.869"
##                      "-0.82"   "0"    "0.82"    "0.809"
##                      "-0.82"   "0"    "0.82"    "0.936"
##                      "-0.82"   "0"    "0.82"    "0.936"
##                      "-0.82"   "0"    "0.82"    "0.968"
##                      "-0.82"   "0"    "0.82"    "0.857"
##                      "-0.821"  "2"    "3.29"    "1.572"
##                      "-0.822"  "15"   "18.56"   "4.331"
##                      "-0.822"  "1"    "2.37"    "1.668"
##                      "-0.822"  "41"   "46.23"   "6.363"
##                      "-0.822"  "3"    "4.83"    "2.225"
##                      "-0.825"  "2"    "3.5"     "1.817"
##                      "-0.825"  "3"    "4.64"    "1.987"
##                      "-0.825"  "5"    "7.28"    "2.764"
##                      "-0.825"  "12"   "14.75"   "3.334"
##                      "-0.826"  "2"    "3.55"    "1.877"
##                      "-0.828"  "0"    "0.87"    "1.051"
##                      "-0.828"  "0"    "0.87"    "1.051"
##                      "-0.828"  "0"    "0.87"    "1.051"
##                      "-0.828"  "5"    "7.38"    "2.874"
##                      "-0.828"  "1"    "2.26"    "1.522"
##                      "-0.829"  "11"   "13.94"   "3.547"
##                      "-0.829"  "1"    "2.02"    "1.231"
##                      "-0.83"   "0"    "0.83"    "0.911"
##                      "-0.83"   "0"    "0.83"    "0.9"
##                      "-0.83"   "0"    "0.83"    "0.842"
##                      "-0.83"   "0"    "0.83"    "0.865"
##                      "-0.83"   "0"    "0.83"    "0.922"
##                      "-0.83"   "0"    "0.83"    "0.817"
##                      "-0.83"   "0"    "0.83"    "0.911"
##                      "-0.83"   "1"    "2.27"    "1.53"
##                      "-0.83"   "0"    "0.83"    "0.911"
##                      "-0.83"   "0"    "0.84"    "1.012"
##                      "-0.83"   "0"    "0.83"    "0.911"
##                      "-0.83"   "0"    "0.83"    "0.911"
```

```
##                     "-0.83"   "0"     "0.83"    "0.829"
##                     "-0.83"   "0"     "0.83"    "0.829"
##                     "-0.83"   "0"     "0.83"    "0.911"
##                     "-0.831"  "3"     "4.65"    "1.987"
##                     "-0.832"  "6"     "8.31"    "2.777"
##                     "-0.833"  "243"   "255.46"  "14.964"
##                     "-0.833"  "1"     "2.15"    "1.381"
##                     "-0.833"  "1"     "2.15"    "1.381"
##                     "-0.833"  "1"     "2.15"    "1.381"
##                     "-0.834"  "1"     "2.29"    "1.546"
##                     "-0.835"  "1"     "2.47"    "1.761"
##                     "-0.835"  "172"   "183.02"  "13.2"
##                     "-0.835"  "1"     "2.31"    "1.568"
##                     "-0.835"  "1"     "2.31"    "1.568"
##                     "-0.835"  "1"     "2.07"    "1.281"
##                     "-0.835"  "1"     "2.24"    "1.485"
##                     "-0.835"  "1"     "2.07"    "1.281"
##                     "-0.835"  "1"     "2.07"    "1.281"
##                     "-0.836"  "1"     "2.28"    "1.531"
##                     "-0.836"  "18"    "21.97"   "4.747"
##                     "-0.837"  "31"    "35.82"   "5.757"
##                     "-0.837"  "61"    "66.44"   "6.5"
##                     "-0.839"  "1"     "2.28"    "1.525"
##                     "-0.839"  "2"     "3.63"    "1.942"
##                     "-0.839"  "2"     "3.52"    "1.812"
##                     "-0.84"   "0"     "0.84"    "0.896"
##                     "-0.84"   "0"     "0.84"    "0.884"
##                     "-0.84"   "0"     "0.84"    "0.861"
##                     "-0.84"   "1"     "2.3"     "1.547"
##                     "-0.84"   "0"     "0.84"    "0.884"
##                     "-0.841"  "43"    "48.32"   "6.326"
##                     "-0.845"  "1"     "2.06"    "1.254"
##                     "-0.845"  "1"     "2.32"    "1.563"
##                     "-0.845"  "1"     "2.06"    "1.254"
##                     "-0.846"  "1"     "2.07"    "1.265"
##                     "-0.847"  "23"    "27.48"   "5.289"
##                     "-0.847"  "0"     "0.86"    "1.015"
##                     "-0.847"  "0"     "0.86"    "1.015"
##                     "-0.847"  "0"     "0.86"    "1.015"
##                     "-0.848"  "34"    "38.94"   "5.824"
##                     "-0.848"  "5"     "7.05"    "2.418"
##                     "-0.848"  "5"     "7.05"    "2.418"
##                     "-0.849"  "5"     "7.15"    "2.532"
##                     "-0.849"  "138"   "148.02"  "11.803"
##                     "-0.85"   "58"    "64.11"   "7.187"
##                     "-0.85"   "0"     "0.85"    "0.936"
##                     "-0.85"   "0"     "0.85"    "0.925"
##                     "-0.85"   "1"     "2.14"    "1.341"
##                     "-0.85"   "0"     "0.85"    "0.925"
##                     "-0.85"   "0"     "0.85"    "0.925"
##                     "-0.85"   "0"     "0.85"    "0.936"
##                     "-0.85"   "0"     "0.85"    "0.925"
##                     "-0.85"   "1"     "2.14"    "1.341"
##                     "-0.85"   "0"     "0.85"    "0.857"
```

```
##                     "-0.85"    "0"    "0.85"    "0.845"
##                     "-0.85"    "0"    "0.85"    "0.925"
##                     "-0.85"    "0"    "0.85"    "0.892"
##                     "-0.85"    "0"    "0.85"    "0.989"
##                     "-0.851"   "37"   "42.14"   "6.04"
##                     "-0.851"   "53"   "59.32"   "7.425"
##                     "-0.851"   "6"    "8.65"    "3.115"
##                     "-0.852"   "2"    "3.5"     "1.761"
##                     "-0.853"   "1"    "2.43"    "1.677"
##                     "-0.854"   "3"    "4.8"     "2.108"
##                     "-0.855"   "13"   "16.24"   "3.788"
##                     "-0.855"   "43"   "48.26"   "6.152"
##                     "-0.857"   "20"   "24.23"   "4.938"
##                     "-0.857"   "1"    "2.31"    "1.529"
##                     "-0.857"   "1"    "2.2"     "1.4"
##                     "-0.858"   "2"    "3.59"    "1.854"
##                     "-0.858"   "1"    "2.17"    "1.364"
##                     "-0.859"   "13"   "16.32"   "3.866"
##                     "-0.859"   "19"   "23.19"   "4.88"
##                     "-0.86"    "0"    "0.86"    "0.932"
##                     "-0.86"    "0"    "0.86"    "0.841"
##                     "-0.86"    "0"    "0.86"    "0.865"
##                     "-0.86"    "0"    "0.86"    "0.899"
##                     "-0.86"    "0"    "0.86"    "0.804"
##                     "-0.86"    "0"    "0.86"    "0.829"
##                     "-0.86"    "0"    "0.86"    "0.865"
##                     "-0.86"    "0"    "0.86"    "0.804"
##                     "-0.86"    "0"    "0.86"    "0.829"
##                     "-0.86"    "0"    "0.86"    "0.804"
##                     "-0.86"    "0"    "0.86"    "0.841"
##                     "-0.86"    "0"    "0.86"    "0.853"
##                     "-0.86"    "0"    "0.86"    "0.954"
##                     "-0.861"   "1"    "2.33"    "1.544"
##                     "-0.861"   "10"   "12.99"   "3.471"
##                     "-0.861"   "1"    "2.33"    "1.544"
##                     "-0.865"   "12"   "15.21"   "3.71"
##                     "-0.866"   "5"    "7.24"    "2.586"
##                     "-0.867"   "3"    "4.97"    "2.272"
##                     "-0.867"   "1"    "2.4"     "1.614"
##                     "-0.867"   "10"   "12.93"   "3.379"
##                     "-0.868"   "14"   "17.53"   "4.066"
##                     "-0.869"   "2"    "3.76"    "2.026"
##                     "-0.869"   "91"   "99.23"   "9.473"
##                     "-0.87"    "0"    "0.87"    "0.971"
##                     "-0.87"    "0"    "0.87"    "0.884"
##                     "-0.87"    "0"    "0.87"    "0.837"
##                     "-0.87"    "0"    "0.87"    "0.95"
##                     "-0.87"    "0"    "0.87"    "0.981"
##                     "-0.87"    "0"    "0.87"    "0.981"
##                     "-0.87"    "0"    "0.87"    "0.939"
##                     "-0.87"    "0"    "0.87"    "0.971"
##                     "-0.87"    "0"    "0.87"    "0.884"
##                     "-0.87"    "0"    "0.87"    "0.837"
##                     "-0.87"    "0"    "0.87"    "0.971"
```

```
##                      "-0.871" "2"    "3.74"    "1.998"
##                      "-0.871" "4"    "6.2"     "2.527"
##                      "-0.871" "11"   "14.07"   "3.523"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.872" "8"    "10.64"   "3.027"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.872" "6"    "8.49"    "2.855"
##                      "-0.873" "0"    "0.88"    "1.008"
##                      "-0.875" "10"   "13.23"   "3.69"
##                      "-0.876" "92"   "100.75"  "9.987"
##                      "-0.876" "3"    "5.07"    "2.362"
##                      "-0.878" "34"   "39.26"   "5.991"
##                      "-0.878" "6"    "8.62"    "2.984"
##                      "-0.88"  "0"    "0.88"    "0.998"
##                      "-0.88"  "0"    "0.88"    "0.967"
##                      "-0.88"  "0"    "0.88"    "0.844"
##                      "-0.88"  "0"    "0.88"    "0.998"
##                      "-0.88"  "0"    "0.88"    "0.924"
##                      "-0.88"  "0"    "0.88"    "0.998"
##                      "-0.88"  "0"    "0.88"    "0.998"
##                      "-0.88"  "0"    "0.88"    "0.879"
##                      "-0.88"  "0"    "0.96"    "1.091"
##                      "-0.88"  "0"    "0.88"    "0.967"
##                      "-0.88"  "0"    "0.88"    "0.946"
##                      "-0.88"  "1"    "2.13"    "1.284"
##                      "-0.88"  "0"    "0.88"    "0.998"
##                      "-0.88"  "0"    "0.88"    "0.998"
##                      "-0.88"  "0"    "0.88"    "0.946"
##                      "-0.88"  "0"    "0.88"    "0.998"
##                      "-0.882" "3"    "4.83"    "2.075"
##                      "-0.882" "7"    "9.04"    "2.313"
##                      "-0.884" "276"  "295.39"  "21.944"
##                      "-0.885" "80"   "89.04"   "10.213"
##                      "-0.885" "1"    "2.4"     "1.583"
##                      "-0.885" "6"    "8.29"    "2.587"
##                      "-0.885" "0"    "0.94"    "1.062"
##                      "-0.885" "0"    "0.94"    "1.062"
##                      "-0.886" "0"    "0.89"    "1.004"
##                      "-0.886" "0"    "0.89"    "1.004"
##                      "-0.886" "0"    "0.89"    "1.004"
##                      "-0.887" "6"    "8.56"    "2.886"
##                      "-0.888" "0"    "0.99"    "1.115"
##                      "-0.889" "74"   "81.7"    "8.658"
##                      "-0.889" "112"  "121.13"  "10.265"
##                      "-0.889" "2"    "3.88"    "2.114"
##                      "-0.89"  "0"    "0.89"    "0.886"
##                      "-0.89"  "0"    "0.89"    "0.994"
##                      "-0.89"  "0"    "0.89"    "0.92"
```

```
##                    "-0.89"    "0"     "0.89"     "0.994"
##                    "-0.89"    "0"     "0.89"     "0.863"
##                    "-0.89"    "18"    "21.65"    "4.101"
##                    "-0.89"    "0"     "0.89"     "0.973"
##                    "-0.89"    "0"     "0.89"     "0.92"
##                    "-0.89"    "29"    "34.3"     "5.952"
##                    "-0.89"    "0"     "0.89"     "0.973"
##                    "-0.89"    "0"     "0.89"     "0.863"
##                    "-0.89"    "0"     "0.89"     "0.79"
##                    "-0.89"    "0"     "0.89"     "0.815"
##                    "-0.89"    "0"     "0.89"     "0.931"
##                    "-0.891"   "15"    "18.73"    "4.187"
##                    "-0.892"   "15"    "18.46"    "3.881"
##                    "-0.892"   "33"    "38.99"    "6.713"
##                    "-0.893"   "1"     "2.46"     "1.636"
##                    "-0.893"   "1"     "2.39"     "1.556"
##                    "-0.895"   "1"     "2.43"     "1.597"
##                    "-0.896"   "0"     "0.91"     "1.016"
##                    "-0.896"   "22"    "26.13"    "4.609"
##                    "-0.896"   "7"     "9.97"     "3.313"
##                    "-0.898"   "167"   "177.52"   "11.711"
##                    "-0.898"   "24"    "28.63"    "5.157"
##                    "-0.9"     "0"     "0.9"      "0.948"
##                    "-0.9"     "0"     "0.9"      "0.98"
##                    "-0.9"     "1"     "2.33"     "1.477"
##                    "-0.9"     "24"    "27.84"    "4.268"
##                    "-0.9"     "0"     "0.9"      "0.948"
##                    "-0.9"     "0"     "0.9"      "0.847"
##                    "-0.9"     "0"     "0.9"      "0.835"
##                    "-0.9"     "0"     "0.9"      "0.835"
##                    "-0.9"     "0"     "0.9"      "0.99"
##                    "-0.9"     "0"     "0.9"      "0.927"
##                    "-0.9"     "0"     "0.9"      "0.893"
##                    "-0.9"     "0"     "0.9"      "0.948"
##                    "-0.901"   "11"    "14.52"    "3.907"
##                    "-0.901"   "11"    "14.52"    "3.907"
##                    "-0.901"   "11"    "14.52"    "3.907"
##                    "-0.902"   "1"     "2.38"     "1.529"
##                    "-0.904"   "15"    "18.72"    "4.117"
##                    "-0.904"   "15"    "18.27"    "3.618"
##                    "-0.904"   "5"     "7.25"     "2.488"
##                    "-0.904"   "1"     "2.55"     "1.714"
##                    "-0.905"   "0"     "0.91"     "1.006"
##                    "-0.905"   "5"     "7.56"     "2.83"
##                    "-0.905"   "0"     "0.91"     "1.006"
##                    "-0.906"   "0"     "0.95"     "1.048"
##                    "-0.908"   "62"    "69.69"    "8.469"
##                    "-0.909"   "1"     "2.31"     "1.44"
##                    "-0.91"    "0"     "0.91"     "0.911"
##                    "-0.91"    "0"     "0.91"     "0.83"
##                    "-0.91"    "0"     "0.91"     "0.933"
##                    "-0.91"    "0"     "0.91"     "0.933"
##                    "-0.91"    "0"     "0.91"     "0.922"
##                    "-0.91"    "101"   "111.23"   "11.243"
```

```
##                      "-0.91"   "0"     "0.91"    "0.954"
##                      "-0.91"   "0"     "0.91"    "0.996"
##                      "-0.91"   "0"     "0.91"    "0.975"
##                      "-0.91"   "0"     "0.91"    "0.83"
##                      "-0.91"   "0"     "0.91"    "0.922"
##                      "-0.915"  "1"     "2.45"    "1.585"
##                      "-0.916"  "0"     "1"       "1.092"
##                      "-0.916"  "0"     "0.97"    "1.058"
##                      "-0.917"  "2"     "3.93"    "2.105"
##                      "-0.917"  "67"    "73.71"   "7.316"
##                      "-0.918"  "3"     "4.92"    "2.092"
##                      "-0.918"  "16"    "20.03"   "4.389"
##                      "-0.919"  "0"     "0.94"    "1.023"
##                      "-0.919"  "0"     "0.94"    "1.023"
##                      "-0.92"   "0"     "0.92"    "0.907"
##                      "-0.92"   "0"     "0.92"    "0.918"
##                      "-0.92"   "0"     "0.92"    "0.971"
##                      "-0.92"   "0"     "0.92"    "0.929"
##                      "-0.92"   "0"     "0.92"    "0.971"
##                      "-0.92"   "0"     "0.92"    "0.918"
##                      "-0.92"   "0"     "0.92"    "0.918"
##                      "-0.92"   "0"     "0.92"    "0.918"
##                      "-0.92"   "0"     "0.92"    "0.872"
##                      "-0.92"   "0"     "0.92"    "0.961"
##                      "-0.92"   "0"     "0.92"    "0.918"
##                      "-0.921"  "4"     "6.53"    "2.747"
##                      "-0.921"  "4"     "6.53"    "2.747"
##                      "-0.921"  "4"     "6.53"    "2.747"
##                      "-0.922"  "58"    "66.32"   "9.023"
##                      "-0.922"  "0"     "0.98"    "1.063"
##                      "-0.923"  "1"     "2.36"    "1.474"
##                      "-0.925"  "1"     "2.41"    "1.525"
##                      "-0.925"  "0"     "0.97"    "1.049"
##                      "-0.926"  "6"     "8.38"    "2.569"
##                      "-0.927"  "1"     "2.36"    "1.467"
##                      "-0.927"  "1"     "2.36"    "1.467"
##                      "-0.927"  "1"     "2.2"     "1.295"
##                      "-0.93"   "0"     "0.93"    "0.756"
##                      "-0.93"   "0"     "0.93"    "0.956"
##                      "-0.93"   "0"     "0.93"    "0.891"
##                      "-0.93"   "0"     "0.93"    "0.967"
##                      "-0.93"   "0"     "0.93"    "0.967"
##                      "-0.93"   "0"     "0.93"    "0.856"
##                      "-0.93"   "1"     "2.29"    "1.387"
##                      "-0.93"   "0"     "0.93"    "0.977"
##                      "-0.93"   "0"     "0.93"    "0.756"
##                      "-0.93"   "0"     "0.93"    "0.756"
##                      "-0.93"   "0"     "0.93"    "0.756"
##                      "-0.93"   "0"     "0.93"    "0.756"
##                      "-0.93"   "0"     "0.93"    "0.891"
##                      "-0.93"   "0"     "0.93"    "0.891"
##                      "-0.931"  "1"     "2.4"     "1.504"
##                      "-0.931"  "2"     "3.95"    "2.096"
##                      "-0.932"  "125"   "135.58"  "11.347"
```

```
##                    "-0.932"  "12"    "15.71"   "3.98"
##                    "-0.932"  "104"   "113.09"  "9.756"
##                    "-0.933"  "21"    "24.76"   "4.03"
##                    "-0.933"  "1"     "2.41"    "1.512"
##                    "-0.933"  "0"     "0.97"    "1.039"
##                    "-0.933"  "0"     "0.97"    "1.039"
##                    "-0.934"  "0"     "1.06"    "1.135"
##                    "-0.934"  "0"     "1.06"    "1.135"
##                    "-0.935"  "3"     "4.95"    "2.086"
##                    "-0.936"  "37"    "42.33"   "5.696"
##                    "-0.937"  "0"     "0.94"    "1.003"
##                    "-0.937"  "6"     "9.02"    "3.222"
##                    "-0.938"  "2"     "4.05"    "2.185"
##                    "-0.939"  "3"     "4.93"    "2.056"
##                    "-0.939"  "0"     "1.13"    "1.203"
##                    "-0.94"   "0"     "0.94"    "0.874"
##                    "-0.94"   "11"    "14.45"   "3.672"
##                    "-0.94"   "0"     "0.94"    "0.93"
##                    "-0.94"   "0"     "0.94"    "0.908"
##                    "-0.941"  "5"     "7.49"    "2.646"
##                    "-0.945"  "6"     "8.49"    "2.634"
##                    "-0.945"  "3"     "5.17"    "2.296"
##                    "-0.946"  "1"     "2.45"    "1.533"
##                    "-0.946"  "1"     "2.58"    "1.671"
##                    "-0.947"  "1"     "2.64"    "1.732"
##                    "-0.948"  "0"     "1.03"    "1.087"
##                    "-0.948"  "16"    "20.5"    "4.745"
##                    "-0.949"  "2"     "3.75"    "1.844"
##                    "-0.95"   "0"     "0.95"    "0.999"
##                    "-0.95"   "0"     "0.95"    "0.925"
##                    "-0.95"   "1"     "2.57"    "1.653"
##                    "-0.95"   "0"     "0.95"    "0.88"
##                    "-0.95"   "1"     "2.33"    "1.4"
##                    "-0.95"   "0"     "0.95"    "0.925"
##                    "-0.95"   "0"     "0.95"    "0.947"
##                    "-0.951"  "11"    "14.81"   "4.007"
##                    "-0.951"  "1"     "2.6"     "1.682"
##                    "-0.952"  "4"     "6.01"    "2.111"
##                    "-0.953"  "12"    "15.57"   "3.745"
##                    "-0.954"  "0"     "1.07"    "1.121"
##                    "-0.954"  "0"     "1.01"    "1.059"
##                    "-0.955"  "0"     "1.11"    "1.163"
##                    "-0.956"  "0"     "1.03"    "1.077"
##                    "-0.956"  "231"   "244.08"  "13.677"
##                    "-0.956"  "0"     "1.18"    "1.234"
##                    "-0.956"  "0"     "1.18"    "1.234"
##                    "-0.956"  "0"     "1.18"    "1.234"
##                    "-0.957"  "0"     "1"       "1.044"
##                    "-0.957"  "2"     "3.75"    "1.828"
##                    "-0.958"  "1"     "2.45"    "1.513"
##                    "-0.96"   "12"    "15.67"   "3.822"
##                    "-0.96"   "1"     "2.28"    "1.334"
##                    "-0.96"   "0"     "0.96"    "0.963"
##                    "-0.96"   "0"     "0.96"    "0.909"
```

```
##                      "-0.96"   "0"     "0.96"    "0.963"
##                      "-0.96"   "0"     "0.96"    "0.84"
##                      "-0.962"  "14"    "18.33"   "4.502"
##                      "-0.963"  "6"     "8.48"    "2.576"
##                      "-0.963"  "7"     "9.81"    "2.919"
##                      "-0.963"  "0"     "1.01"    "1.049"
##                      "-0.964"  "1"     "2.62"    "1.68"
##                      "-0.964"  "0"     "1.03"    "1.068"
##                      "-0.964"  "1"     "2.62"    "1.68"
##                      "-0.964"  "1"     "2.62"    "1.68"
##                      "-0.964"  "1"     "2.62"    "1.68"
##                      "-0.965"  "0"     "1.14"    "1.181"
##                      "-0.965"  "1"     "2.48"    "1.534"
##                      "-0.966"  "3"     "5.56"    "2.649"
##                      "-0.966"  "0"     "0.98"    "1.015"
##                      "-0.966"  "10"    "13.46"   "3.58"
##                      "-0.966"  "0"     "0.98"    "1.015"
##                      "-0.966"  "117"   "126.15"  "9.472"
##                      "-0.967"  "67"    "76.12"   "9.428"
##                      "-0.969"  "0"     "1.39"    "1.435"
##                      "-0.969"  "4"     "6.36"    "2.435"
##                      "-0.969"  "7"     "10.04"   "3.136"
##                      "-0.969"  "0"     "1.39"    "1.435"
##                      "-0.97"   "0"     "0.97"    "0.969"
##                      "-0.97"   "0"     "0.97"    "0.958"
##                      "-0.97"   "0"     "0.97"    "1"
##                      "-0.97"   "0"     "0.97"    "0.979"
##                      "-0.97"   "0"     "0.97"    "0.958"
##                      "-0.97"   "0"     "0.97"    "0.958"
##                      "-0.97"   "0"     "0.97"    "1"
##                      "-0.97"   "0"     "0.97"    "0.958"
##                      "-0.97"   "0"     "0.97"    "0.958"
##                      "-0.971"  "0"     "1.1"     "1.133"
##                      "-0.971"  "4"     "6.79"    "2.872"
##                      "-0.972"  "31"    "37.11"   "6.288"
##                      "-0.973"  "1"     "2.56"    "1.604"
##                      "-0.975"  "0"     "0.98"    "1.005"
##                      "-0.976"  "0"     "1"       "1.025"
##                      "-0.976"  "1"     "2.66"    "1.701"
##                      "-0.977"  "0"     "1.02"    "1.044"
##                      "-0.977"  "27"    "32.88"   "6.021"
##                      "-0.978"  "12"    "14.81"   "2.873"
##                      "-0.978"  "1"     "2.62"    "1.656"
##                      "-0.978"  "1"     "2.46"    "1.494"
##                      "-0.979"  "0"     "1.1"     "1.124"
##                      "-0.98"   "0"     "0.98"    "0.995"
##                      "-0.98"   "0"     "0.98"    "0.985"
##                      "-0.98"   "0"     "0.98"    "0.985"
##                      "-0.98"   "0"     "0.98"    "0.995"
##                      "-0.98"   "0"     "0.98"    "0.91"
##                      "-0.981"  "1"     "2.22"    "1.244"
##                      "-0.982"  "2"     "3.95"    "1.987"
##                      "-0.982"  "1"     "2.48"    "1.507"
##                      "-0.984"  "0"     "1.05"    "1.067"
```

```
##                      "-0.984"   "0"     "1.08"     "1.098"
##                      "-0.985"   "6"     "8.53"     "2.568"
##                      "-0.986"   "0"     "1.15"     "1.167"
##                      "-0.986"   "20"    "24.87"    "4.941"
##                      "-0.986"   "1"     "2.37"     "1.39"
##                      "-0.986"   "6"     "8.78"     "2.82"
##                      "-0.987"   "1"     "2.38"     "1.398"
##                      "-0.988"   "8"     "11.1"     "3.138"
##                      "-0.989"   "0"     "1.06"     "1.071"
##                      "-0.99"    "0"     "0.99"     "0.859"
##                      "-0.99"    "0"     "0.99"     "1"
##                      "-0.99"    "0"     "0.99"     "0.969"
##                      "-0.99"    "0"     "0.99"     "0.98"
##                      "-0.99"    "0"     "0.99"     "0.959"
##                      "-0.99"    "12"    "15.97"    "4.011"
##                      "-0.991"   "3"     "5.29"     "2.311"
##                      "-0.992"   "0"     "1.16"     "1.17"
##                      "-0.992"   "33"    "40.09"    "7.148"
##                      "-0.992"   "5"     "7.55"     "2.572"
##                      "-0.993"   "1"     "2.51"     "1.521"
##                      "-0.993"   "0"     "1.05"     "1.058"
##                      "-0.996"   "0"     "1.19"     "1.195"
##                      "-0.996"   "0"     "1.13"     "1.134"
##                      "-0.997"   "34"    "40.78"    "6.801"
##                      "-0.997"   "2"     "4.22"     "2.227"
##                      "-0.998"   "0"     "1.12"     "1.122"
##                      "-0.998"   "0"     "1.12"     "1.122"
##                      "-0.999"   "8"     "11.44"    "3.445"
##                      "-0.999"   "1"     "2.63"     "1.631"
##                      "-1"       "0"     "1"        "0.943"
##                      "-1"       "0"     "1.23"     "1.23"
##                      "-1"       "0"     "1"        "0.985"
##                      "-1"       "0"     "1"        "0.985"
##                      "-1"       "0"     "1"        "0.985"
##                      "-1"       "0"     "1"        "0.985"
##                      "-1"       "0"     "1"        "0.985"
##                      "-1"       "0"     "1"        "0.985"
##                      "-1"       "0"     "1"        "0.932"
##                      "-1"       "0"     "1"        "0.985"
##                      "-1"       "1"     "2.48"     "1.48"
##                      "-1.001"   "6"     "8.42"     "2.417"
##                      "-1.001"   "0"     "1.03"     "1.029"
##                      "-1.002"   "0"     "1.05"     "1.048"
##                      "-1.002"   "0"     "1.05"     "1.048"
##                      "-1.002"   "0"     "1.05"     "1.048"
##                      "-1.003"   "1"     "2.89"     "1.885"
##                      "-1.004"   "16"    "20.88"    "4.862"
##                      "-1.004"   "17"    "21.74"    "4.72"
##                      "-1.004"   "2"     "3.59"     "1.583"
##                      "-1.005"   "139"   "150.91"   "11.849"
##                      "-1.005"   "1"     "2.83"     "1.821"
##                      "-1.005"   "2"     "4.04"     "2.03"
##                      "-1.005"   "1"     "2.46"     "1.452"
##                      "-1.006"   "1"     "2.36"     "1.352"
```

```
##                     "-1.006"  "6"    "8.99"   "2.973"
##                     "-1.006"  "0"    "1.09"   "1.083"
##                     "-1.006"  "75"   "83.05"  "8.004"
##                     "-1.007"  "1"    "2.86"   "1.848"
##                     "-1.007"  "1"    "2.41"   "1.401"
##                     "-1.007"  "1"    "2.41"   "1.401"
##                     "-1.007"  "1"    "2.41"   "1.401"
##                     "-1.008"  "1"    "2.88"   "1.866"
##                     "-1.008"  "1"    "2.88"   "1.866"
##                     "-1.008"  "1"    "2.88"   "1.866"
##                     "-1.008"  "7"    "10.28"  "3.254"
##                     "-1.008"  "10"   "14.2"   "4.168"
##                     "-1.009"  "1"    "2.84"   "1.824"
##                     "-1.009"  "1"    "2.84"   "1.824"
##                     "-1.009"  "5"    "7.83"   "2.804"
##                     "-1.01"   "0"    "1.19"   "1.178"
##                     "-1.01"   "0"    "1.01"   "0.859"
##                     "-1.01"   "0"    "1.01"   "1"
##                     "-1.01"   "0"    "1.14"   "1.128"
##                     "-1.011"  "7"    "10.28"  "3.245"
##                     "-1.012"  "11"   "15.41"  "4.356"
##                     "-1.013"  "0"    "1.17"   "1.155"
##                     "-1.013"  "1"    "2.92"   "1.895"
##                     "-1.013"  "0"    "1.07"   "1.057"
##                     "-1.014"  "5"    "7.42"   "2.388"
##                     "-1.015"  "1"    "2.84"   "1.813"
##                     "-1.015"  "0"    "1.12"   "1.104"
##                     "-1.015"  "0"    "1.12"   "1.104"
##                     "-1.015"  "0"    "1.21"   "1.192"
##                     "-1.016"  "1"    "3.21"   "2.176"
##                     "-1.016"  "7"    "10.18"  "3.131"
##                     "-1.016"  "7"    "10.18"  "3.131"
##                     "-1.016"  "9"    "12.8"   "3.739"
##                     "-1.016"  "7"    "10.23"  "3.178"
##                     "-1.017"  "2"    "4.34"   "2.302"
##                     "-1.017"  "1"    "2.79"   "1.76"
##                     "-1.018"  "2"    "3.91"   "1.875"
##                     "-1.018"  "0"    "1.08"   "1.061"
##                     "-1.018"  "1"    "2.64"   "1.611"
##                     "-1.018"  "1"    "2.64"   "1.611"
##                     "-1.018"  "1"    "2.64"   "1.611"
##                     "-1.018"  "0"    "1.08"   "1.061"
##                     "-1.018"  "1"    "2.64"   "1.611"
##                     "-1.018"  "1"    "2.64"   "1.611"
##                     "-1.018"  "0"    "1.08"   "1.061"
##                     "-1.019"  "1"    "2.86"   "1.826"
##                     "-1.02"   "0"    "1.02"   "0.943"
##                     "-1.02"   "0"    "1.02"   "0.985"
##                     "-1.02"   "0"    "1.02"   "0.995"
##                     "-1.02"   "0"    "1.02"   "0.985"
##                     "-1.02"   "0"    "1.24"   "1.215"
##                     "-1.02"   "0"    "1.03"   "1.01"
##                     "-1.02"   "0"    "1.03"   "1.01"
##                     "-1.02"   "0"    "1.02"   "0.974"
```

```
##                     "-1.02"    "0"     "1.02"    "0.864"
##                     "-1.02"    "0"     "1.03"    "1.01"
##                     "-1.02"    "1"     "2.57"    "1.539"
##                     "-1.021"   "0"     "1.1"     "1.078"
##                     "-1.021"   "0"     "1.1"     "1.078"
##                     "-1.021"   "0"     "1.1"     "1.078"
##                     "-1.021"   "15"    "19.43"   "4.34"
##                     "-1.022"   "0"     "1.16"    "1.135"
##                     "-1.024"   "5"     "8.11"    "3.038"
##                     "-1.024"   "0"     "1.15"    "1.123"
##                     "-1.024"   "1"     "2.53"    "1.494"
##                     "-1.025"   "0"     "1.04"    "1.014"
##                     "-1.027"   "6"     "9.01"    "2.932"
##                     "-1.028"   "4"     "6.24"    "2.179"
##                     "-1.028"   "17"    "21.76"   "4.63"
##                     "-1.028"   "6"     "8.86"    "2.782"
##                     "-1.029"   "0"     "1.17"    "1.138"
##                     "-1.03"    "0"     "1.03"    "0.989"
##                     "-1.03"    "0"     "1.1"     "1.068"
##                     "-1.03"    "1"     "2.46"    "1.417"
##                     "-1.03"    "0"     "1.03"    "0.989"
##                     "-1.03"    "0"     "1.03"    "0.979"
##                     "-1.031"   "0"     "1.05"    "1.019"
##                     "-1.031"   "19"    "23.63"   "4.492"
##                     "-1.031"   "0"     "1.05"    "1.019"
##                     "-1.031"   "1"     "2.83"    "1.776"
##                     "-1.031"   "1"     "2.54"    "1.494"
##                     "-1.031"   "0"     "1.05"    "1.019"
##                     "-1.033"   "0"     "1.15"    "1.114"
##                     "-1.033"   "7"     "9.79"    "2.702"
##                     "-1.033"   "0"     "1.15"    "1.114"
##                     "-1.033"   "0"     "1.19"    "1.152"
##                     "-1.035"   "16"    "20.63"   "4.474"
##                     "-1.035"   "0"     "1.11"    "1.072"
##                     "-1.035"   "0"     "1.23"    "1.188"
##                     "-1.035"   "9"     "12.44"   "3.325"
##                     "-1.036"   "3"     "5.42"    "2.336"
##                     "-1.037"   "0"     "1.17"    "1.129"
##                     "-1.038"   "35"    "43.05"   "7.754"
##                     "-1.038"   "0"     "1.21"    "1.166"
##                     "-1.038"   "0"     "1.13"    "1.089"
##                     "-1.038"   "2"     "4.1"     "2.023"
##                     "-1.038"   "0"     "1.13"    "1.089"
##                     "-1.04"    "2"     "3.96"    "1.885"
##                     "-1.04"    "0"     "1.04"    "0.898"
##                     "-1.04"    "39"    "45.49"   "6.243"
##                     "-1.04"    "0"     "1.04"    "0.942"
##                     "-1.04"    "0"     "1.04"    "0.931"
##                     "-1.04"    "3"     "5.19"    "2.107"
##                     "-1.04"    "2"     "4.22"    "2.135"
##                     "-1.041"   "0"     "1.07"    "1.027"
##                     "-1.041"   "0"     "1.07"    "1.027"
##                     "-1.041"   "0"     "1.07"    "1.027"
##                     "-1.041"   "0"     "1.07"    "1.027"
```

```
##                    "-1.041"  "0"    "1.07"   "1.027"
##                    "-1.041"  "0"    "1.07"   "1.027"
##                    "-1.041"  "0"    "1.15"   "1.104"
##                    "-1.041"  "0"    "1.07"   "1.027"
##                    "-1.041"  "0"    "1.19"   "1.143"
##                    "-1.042"  "1"    "2.71"   "1.641"
##                    "-1.045"  "1"    "2.87"   "1.79"
##                    "-1.046"  "5"    "7.86"   "2.734"
##                    "-1.047"  "0"    "1.13"   "1.079"
##                    "-1.047"  "7"    "10.49"  "3.335"
##                    "-1.048"  "0"    "1.1"    "1.049"
##                    "-1.048"  "0"    "1.1"    "1.049"
##                    "-1.048"  "1"    "2.55"   "1.48"
##                    "-1.049"  "0"    "1.44"   "1.373"
##                    "-1.05"   "0"    "1.05"   "0.968"
##                    "-1.05"   "0"    "1.05"   "0.968"
##                    "-1.05"   "0"    "1.05"   "0.968"
##                    "-1.05"   "35"   "41.19"  "5.894"
##                    "-1.05"   "17"   "21.65"  "4.43"
##                    "-1.05"   "0"    "1.05"   "0.968"
##                    "-1.05"   "0"    "1.05"   "0.989"
##                    "-1.05"   "1"    "2.54"   "1.466"
##                    "-1.05"   "0"    "1.05"   "0.968"
##                    "-1.051"  "21"   "26.46"  "5.196"
##                    "-1.051"  "16"   "20.55"  "4.328"
##                    "-1.051"  "1"    "2.49"   "1.418"
##                    "-1.051"  "1"    "2.67"   "1.589"
##                    "-1.051"  "16"   "20.94"  "4.699"
##                    "-1.051"  "0"    "1.23"   "1.171"
##                    "-1.052"  "1"    "2.69"   "1.606"
##                    "-1.052"  "1"    "2.69"   "1.606"
##                    "-1.052"  "1"    "2.69"   "1.606"
##                    "-1.052"  "16"   "20.5"   "4.279"
##                    "-1.053"  "1"    "2.68"   "1.595"
##                    "-1.054"  "1"    "2.85"   "1.755"
##                    "-1.054"  "10"   "13.57"  "3.388"
##                    "-1.055"  "0"    "1.26"   "1.194"
##                    "-1.055"  "0"    "1.26"   "1.194"
##                    "-1.055"  "3"    "5.13"   "2.018"
##                    "-1.055"  "0"    "1.26"   "1.194"
##                    "-1.055"  "14"   "17.97"  "3.762"
##                    "-1.055"  "3"    "5.13"   "2.018"
##                    "-1.055"  "3"    "5.13"   "2.018"
##                    "-1.056"  "1"    "2.73"   "1.638"
##                    "-1.056"  "52"   "59.72"  "7.313"
##                    "-1.057"  "4"    "7.08"   "2.915"
##                    "-1.057"  "0"    "1.06"   "1.003"
##                    "-1.057"  "0"    "1.24"   "1.173"
##                    "-1.058"  "8"    "11.46"  "3.27"
##                    "-1.058"  "5"    "7.7"    "2.552"
##                    "-1.059"  "7"    "10.11"  "2.937"
##                    "-1.059"  "7"    "10.18"  "3.003"
##                    "-1.06"   "0"    "1.06"   "0.973"
##                    "-1.06"   "0"    "1.06"   "0.983"
```

```
##                      "-1.06"   "0"     "1.06"    "0.983"
##                      "-1.06"   "0"     "1.06"    "0.993"
##                      "-1.06"   "0"     "1.06"    "0.973"
##                      "-1.06"   "0"     "1.06"    "0.919"
##                      "-1.06"   "0"     "1.06"    "0.93"
##                      "-1.06"   "0"     "1.06"    "0.93"
##                      "-1.062"  "0"     "1.26"    "1.186"
##                      "-1.062"  "6"     "9.25"    "3.06"
##                      "-1.062"  "2"     "4.29"    "2.157"
##                      "-1.063"  "1"     "2.74"    "1.637"
##                      "-1.063"  "1"     "3.08"    "1.958"
##                      "-1.063"  "5"     "7.83"    "2.663"
##                      "-1.064"  "4"     "6.59"    "2.433"
##                      "-1.064"  "0"     "1.25"    "1.175"
##                      "-1.064"  "0"     "1.47"    "1.381"
##                      "-1.064"  "0"     "1.25"    "1.175"
##                      "-1.064"  "0"     "1.25"    "1.175"
##                      "-1.065"  "0"     "1.24"    "1.164"
##                      "-1.066"  "3"     "5.36"    "2.213"
##                      "-1.066"  "0"     "1.34"    "1.257"
##                      "-1.066"  "0"     "1.34"    "1.257"
##                      "-1.067"  "0"     "1.38"    "1.293"
##                      "-1.067"  "0"     "1.08"    "1.012"
##                      "-1.068"  "136"   "148.56"  "11.761"
##                      "-1.068"  "0"     "1.1"     "1.03"
##                      "-1.068"  "3"     "5.38"    "2.228"
##                      "-1.068"  "0"     "1.22"    "1.142"
##                      "-1.068"  "62"    "70.35"   "7.82"
##                      "-1.068"  "0"     "1.28"    "1.198"
##                      "-1.068"  "7"     "10.65"   "3.418"
##                      "-1.07"   "0"     "1.07"    "0.987"
##                      "-1.07"   "1"     "2.8"     "1.682"
##                      "-1.07"   "15"    "19.95"   "4.626"
##                      "-1.07"   "0"     "1.07"    "0.977"
##                      "-1.07"   "0"     "1.07"    "0.935"
##                      "-1.07"   "0"     "1.21"    "1.131"
##                      "-1.07"   "0"     "1.07"    "0.967"
##                      "-1.07"   "0"     "1.07"    "0.856"
##                      "-1.07"   "6"     "9.22"    "3.01"
##                      "-1.07"   "0"     "1.07"    "0.977"
##                      "-1.07"   "0"     "1.07"    "0.987"
##                      "-1.07"   "0"     "1.07"    "0.967"
##                      "-1.07"   "0"     "1.07"    "0.987"
##                      "-1.071"  "6"     "9.34"    "3.118"
##                      "-1.072"  "1"     "2.99"    "1.856"
##                      "-1.072"  "6"     "8.65"    "2.472"
##                      "-1.072"  "10"    "13.67"   "3.423"
##                      "-1.072"  "1"     "2.7"     "1.586"
##                      "-1.074"  "1"     "2.64"    "1.528"
##                      "-1.074"  "0"     "1.31"    "1.22"
##                      "-1.075"  "4"     "7.13"    "2.912"
##                      "-1.075"  "0"     "1.13"    "1.051"
##                      "-1.075"  "2"     "4.38"    "2.215"
##                      "-1.075"  "1"     "2.71"    "1.591"
```

```
##                   "-1.075"  "1"    "2.71"    "1.591"
##                   "-1.075"  "0"    "1.13"    "1.051"
##                   "-1.077"  "0"    "1.27"    "1.179"
##                   "-1.077"  "0"    "1.27"    "1.179"
##                   "-1.077"  "0"    "1.27"    "1.179"
##                   "-1.077"  "0"    "1.27"    "1.179"
##                   "-1.077"  "0"    "1.27"    "1.179"
##                   "-1.077"  "0"    "1.27"    "1.179"
##                   "-1.078"  "0"    "1.1"     "1.02"
##                   "-1.078"  "0"    "1.1"     "1.02"
##                   "-1.078"  "0"    "1.26"    "1.169"
##                   "-1.078"  "0"    "1.15"    "1.067"
##                   "-1.078"  "0"    "1.1"     "1.02"
##                   "-1.08"   "2"    "4.19"    "2.029"
##                   "-1.08"   "0"    "1.08"    "0.981"
##                   "-1.08"   "0"    "1.32"    "1.222"
##                   "-1.08"   "0"    "1.12"    "1.037"
##                   "-1.08"   "0"    "1.08"    "0.981"
##                   "-1.08"   "0"    "1.37"    "1.269"
##                   "-1.08"   "0"    "1.08"    "0.981"
##                   "-1.081"  "13"   "17.05"   "3.748"
##                   "-1.081"  "0"    "1.31"    "1.212"
##                   "-1.082"  "1"    "3.07"    "1.914"
##                   "-1.083"  "1"    "2.87"    "1.727"
##                   "-1.083"  "5"    "7.96"    "2.734"
##                   "-1.084"  "0"    "1.09"    "1.006"
##                   "-1.085"  "33"   "38.34"   "4.922"
##                   "-1.085"  "7"    "10.6"    "3.318"
##                   "-1.085"  "1"    "3.04"    "1.88"
##                   "-1.085"  "4"    "6.86"    "2.636"
##                   "-1.085"  "0"    "1.13"    "1.041"
##                   "-1.086"  "0"    "1.67"    "1.538"
##                   "-1.086"  "2"    "4.08"    "1.916"
##                   "-1.087"  "10"   "13.54"   "3.258"
##                   "-1.087"  "2"    "4.3"     "2.115"
##                   "-1.087"  "0"    "1.18"    "1.086"
##                   "-1.087"  "0"    "1.15"    "1.058"
##                   "-1.089"  "0"    "1.31"    "1.203"
##                   "-1.09"   "0"    "1.17"    "1.074"
##                   "-1.09"   "0"    "1.44"    "1.321"
##                   "-1.09"   "0"    "1.12"    "1.028"
##                   "-1.09"   "0"    "1.09"    "0.965"
##                   "-1.09"   "0"    "1.09"    "0.954"
##                   "-1.09"   "0"    "1.44"    "1.321"
##                   "-1.091"  "0"    "1.28"    "1.173"
##                   "-1.091"  "2"    "4.1"     "1.925"
##                   "-1.091"  "4"    "7"       "2.749"
##                   "-1.092"  "16"   "20.54"   "4.157"
##                   "-1.092"  "3"    "5.14"    "1.959"
##                   "-1.092"  "2"    "4.2"     "2.015"
##                   "-1.092"  "0"    "1.46"    "1.337"
##                   "-1.093"  "0"    "1.27"    "1.162"
##                   "-1.093"  "0"    "1.19"    "1.089"
##                   "-1.093"  "0"    "1.19"    "1.089"
```

```
##                         "-1.093"  "0"    "1.19"    "1.089"
##                         "-1.094"  "0"    "1.34"    "1.224"
##                         "-1.094"  "1"    "2.95"    "1.783"
##                         "-1.094"  "0"    "1.34"    "1.224"
##                         "-1.095"  "6"    "9.2"     "2.923"
##                         "-1.095"  "3"    "5.54"    "2.32"
##                         "-1.096"  "0"    "1.13"    "1.031"
##                         "-1.096"  "0"    "1.31"    "1.195"
##                         "-1.096"  "0"    "1.13"    "1.031"
##                         "-1.096"  "0"    "1.25"    "1.14"
##                         "-1.097"  "1"    "3.18"    "1.987"
##                         "-1.098"  "29"   "35.38"   "5.808"
##                         "-1.099"  "1"    "2.46"    "1.329"
##                         "-1.099"  "0"    "1.17"    "1.064"
##                         "-1.099"  "64"   "73.27"   "8.436"
##                         "-1.099"  "2"    "4.23"    "2.029"
##                         "-1.099"  "0"    "1.17"    "1.064"
##                         "-1.1"    "0"    "1.1"     "0.959"
##                         "-1.1"    "0"    "1.1"     "0.835"
##                         "-1.1"    "0"    "1.1"     "0.835"
##                         "-1.1"    "0"    "1.1"     "0.893"
##                         "-1.1"    "0"    "1.1"     "0.959"
##                         "-1.1"    "0"    "1.1"     "0.959"
##                         "-1.1"    "0"    "1.1"     "1"
##                         "-1.101"  "4"    "7.15"    "2.862"
##                         "-1.101"  "0"    "1.36"    "1.235"
##                         "-1.101"  "1"    "2.89"    "1.717"
##                         "-1.102"  "16"   "20.56"   "4.14"
##                         "-1.103"  "0"    "1.43"    "1.297"
##                         "-1.103"  "0"    "1.26"    "1.143"
##                         "-1.103"  "0"    "1.43"    "1.297"
##                         "-1.103"  "134"  "147.23"  "11.992"
##                         "-1.104"  "4"    "6.73"    "2.474"
##                         "-1.105"  "2"    "4.27"    "2.054"
##                         "-1.106"  "0"    "1.18"    "1.067"
##                         "-1.106"  "2"    "4.06"    "1.863"
##                         "-1.106"  "0"    "1.13"    "1.022"
##                         "-1.106"  "0"    "1.18"    "1.067"
##                         "-1.106"  "0"    "1.13"    "1.022"
##                         "-1.106"  "0"    "1.18"    "1.067"
##                         "-1.106"  "1"    "2.71"    "1.546"
##                         "-1.106"  "0"    "1.18"    "1.067"
##                         "-1.106"  "0"    "1.18"    "1.067"
##                         "-1.107"  "1"    "3.21"    "1.996"
##                         "-1.107"  "1"    "2.56"    "1.409"
##                         "-1.108"  "1"    "3.12"    "1.914"
##                         "-1.108"  "32"   "38.23"   "5.624"
##                         "-1.108"  "1"    "2.79"    "1.616"
##                         "-1.108"  "1"    "2.79"    "1.616"
##                         "-1.108"  "21"   "26.58"   "5.038"
##                         "-1.109"  "0"    "1.17"    "1.055"
##                         "-1.109"  "2"    "4.48"    "2.236"
##                         "-1.109"  "0"    "1.57"    "1.416"
##                         "-1.109"  "107"  "120.2"   "11.907"
```

```
##                    "-1.109"  "0"    "1.5"      "1.352"
##                    "-1.109"  "2"    "4.81"     "2.533"
##                    "-1.11"   "0"    "1.11"     "0.973"
##                    "-1.11"   "0"    "1.11"     "0.973"
##                    "-1.111"  "39"   "45.51"    "5.858"
##                    "-1.111"  "6"    "9.27"     "2.943"
##                    "-1.111"  "21"   "26.01"    "4.509"
##                    "-1.112"  "0"    "1.19"     "1.07"
##                    "-1.113"  "8"    "11.37"    "3.027"
##                    "-1.113"  "12"   "16.32"    "3.882"
##                    "-1.113"  "2"    "4.68"     "2.407"
##                    "-1.113"  "2"    "4.11"     "1.896"
##                    "-1.114"  "0"    "1.16"     "1.042"
##                    "-1.114"  "3"    "5.49"     "2.236"
##                    "-1.114"  "1"    "3.08"     "1.868"
##                    "-1.115"  "0"    "1.38"     "1.237"
##                    "-1.115"  "100"  "113.25"   "11.878"
##                    "-1.115"  "0"    "1.38"     "1.237"
##                    "-1.115"  "0"    "1.38"     "1.237"
##                    "-1.115"  "0"    "1.21"     "1.085"
##                    "-1.115"  "0"    "1.38"     "1.237"
##                    "-1.115"  "8"    "11.66"    "3.282"
##                    "-1.116"  "0"    "1.24"     "1.111"
##                    "-1.116"  "1"    "2.79"     "1.604"
##                    "-1.116"  "0"    "1.37"     "1.228"
##                    "-1.116"  "1"    "2.79"     "1.604"
##                    "-1.116"  "2"    "4.19"     "1.963"
##                    "-1.117"  "2"    "4.22"     "1.988"
##                    "-1.117"  "18"   "23.2"     "4.654"
##                    "-1.118"  "2"    "4.05"     "1.833"
##                    "-1.119"  "0"    "1.23"     "1.1"
##                    "-1.119"  "166"  "180.69"   "13.127"
##                    "-1.12"   "0"    "1.12"     "0.924"
##                    "-1.12"   "0"    "1.12"     "0.924"
##                    "-1.12"   "0"    "1.12"     "0.924"
##                    "-1.12"   "0"    "1.12"     "0.956"
##                    "-1.12"   "0"    "1.12"     "0.956"
##                    "-1.121"  "10"   "13.83"    "3.417"
##                    "-1.121"  "2"    "4.3"      "2.052"
##                    "-1.122"  "2"    "4.29"     "2.041"
##                    "-1.122"  "2"    "4.29"     "2.041"
##                    "-1.123"  "0"    "1.14"     "1.015"
##                    "-1.123"  "0"    "1.42"     "1.265"
##                    "-1.123"  "0"    "1.42"     "1.265"
##                    "-1.124"  "1"    "2.84"     "1.637"
##                    "-1.125"  "5"    "7.94"     "2.612"
##                    "-1.125"  "1"    "2.83"     "1.627"
##                    "-1.125"  "0"    "1.21"     "1.076"
##                    "-1.126"  "0"    "1.18"     "1.048"
##                    "-1.126"  "0"    "1.18"     "1.048"
##                    "-1.126"  "12"   "15.68"    "3.269"
##                    "-1.126"  "0"    "1.18"     "1.048"
##                    "-1.126"  "0"    "1.18"     "1.048"
##                    "-1.127"  "0"    "1.27"     "1.127"
```

```
##                     "-1.128"  "7"   "10.76"  "3.334"
##                     "-1.128"  "2"   "4.33"   "2.065"
##                     "-1.129"  "0"   "1.31"   "1.161"
##                     "-1.13"   "0"   "1.13"   "0.939"
##                     "-1.13"   "0"   "1.13"   "0.971"
##                     "-1.13"   "0"   "1.13"   "0.95"
##                     "-1.13"   "0"   "1.62"   "1.434"
##                     "-1.13"   "0"   "1.13"   "0.95"
##                     "-1.13"   "0"   "1.3"    "1.15"
##                     "-1.13"   "0"   "1.13"   "0.939"
##                     "-1.13"   "0"   "1.13"   "0.939"
##                     "-1.13"   "0"   "1.13"   "0.939"
##                     "-1.133"  "1"   "2.88"   "1.659"
##                     "-1.133"  "27"  "32.71"  "5.04"
##                     "-1.134"  "0"   "1.14"   "1.005"
##                     "-1.135"  "6"   "9.04"   "2.678"
##                     "-1.135"  "0"   "1.21"   "1.066"
##                     "-1.135"  "0"   "1.21"   "1.066"
##                     "-1.135"  "0"   "1.5"    "1.322"
##                     "-1.135"  "0"   "1.21"   "1.066"
##                     "-1.135"  "1"   "2.91"   "1.682"
##                     "-1.135"  "0"   "1.21"   "1.066"
##                     "-1.137"  "0"   "1.43"   "1.257"
##                     "-1.137"  "2"   "4.16"   "1.9"
##                     "-1.137"  "0"   "1.4"    "1.231"
##                     "-1.137"  "0"   "1.4"    "1.231"
##                     "-1.137"  "0"   "1.41"   "1.24"
##                     "-1.138"  "0"   "1.2"    "1.054"
##                     "-1.138"  "15"  "20.04"  "4.429"
##                     "-1.138"  "0"   "1.23"   "1.081"
##                     "-1.139"  "1"   "3.06"   "1.808"
##                     "-1.14"   "0"   "1.15"   "1.009"
##                     "-1.14"   "1"   "2.81"   "1.587"
##                     "-1.141"  "2"   "4.61"   "2.287"
##                     "-1.141"  "1"   "2.73"   "1.517"
##                     "-1.141"  "0"   "1.34"   "1.174"
##                     "-1.141"  "1"   "2.62"   "1.42"
##                     "-1.141"  "0"   "1.34"   "1.174"
##                     "-1.141"  "1"   "2.73"   "1.517"
##                     "-1.141"  "2"   "4.25"   "1.971"
##                     "-1.141"  "2"   "4.25"   "1.971"
##                     "-1.141"  "4"   "6.86"   "2.507"
##                     "-1.141"  "1"   "2.98"   "1.735"
##                     "-1.142"  "1"   "2.96"   "1.717"
##                     "-1.142"  "1"   "2.77"   "1.55"
##                     "-1.143"  "0"   "1.28"   "1.12"
##                     "-1.143"  "0"   "1.33"   "1.164"
##                     "-1.144"  "0"   "1.24"   "1.084"
##                     "-1.145"  "6"   "9.39"   "2.961"
##                     "-1.145"  "1"   "2.78"   "1.554"
##                     "-1.145"  "1"   "2.58"   "1.379"
##                     "-1.145"  "0"   "1.41"   "1.232"
##                     "-1.145"  "0"   "1.84"   "1.606"
##                     "-1.145"  "3"   "5.99"   "2.611"
```

```
##                      "-1.145"  "0"   "1.21"    "1.057"
##                      "-1.145"  "0"   "1.21"    "1.057"
##                      "-1.146"  "49"  "57.15"   "7.111"
##                      "-1.146"  "1"   "3.19"    "1.911"
##                      "-1.146"  "0"   "1.31"    "1.143"
##                      "-1.146"  "1"   "2.38"    "1.204"
##                      "-1.147"  "1"   "2.83"    "1.596"
##                      "-1.147"  "0"   "1.49"    "1.299"
##                      "-1.147"  "0"   "1.48"    "1.291"
##                      "-1.147"  "0"   "1.49"    "1.299"
##                      "-1.148"  "1"   "2.91"    "1.664"
##                      "-1.148"  "0"   "1.26"    "1.097"
##                      "-1.15"   "0"   "1.15"    "0.957"
##                      "-1.15"   "0"   "1.15"    "0.989"
##                      "-1.15"   "3"   "5.58"    "2.244"
##                      "-1.151"  "0"   "1.22"    "1.06"
##                      "-1.151"  "1"   "2.87"    "1.625"
##                      "-1.151"  "16"  "21.12"   "4.448"
##                      "-1.151"  "1"   "2.73"    "1.503"
##                      "-1.151"  "21"  "27.01"   "5.219"
##                      "-1.153"  "0"   "1.46"    "1.267"
##                      "-1.153"  "0"   "1.46"    "1.267"
##                      "-1.153"  "1"   "2.72"    "1.491"
##                      "-1.153"  "0"   "1.47"    "1.275"
##                      "-1.153"  "2"   "4.51"    "2.177"
##                      "-1.154"  "2"   "4.48"    "2.148"
##                      "-1.154"  "1"   "2.74"    "1.508"
##                      "-1.155"  "0"   "1.31"    "1.134"
##                      "-1.155"  "0"   "1.31"    "1.134"
##                      "-1.155"  "0"   "1.37"    "1.186"
##                      "-1.155"  "0"   "1.21"    "1.047"
##                      "-1.156"  "1"   "2.83"    "1.583"
##                      "-1.157"  "0"   "1.35"    "1.167"
##                      "-1.158"  "59"  "68.83"   "8.49"
##                      "-1.158"  "0"   "1.23"    "1.062"
##                      "-1.158"  "0"   "1.23"    "1.062"
##                      "-1.158"  "0"   "1.23"    "1.062"
##                      "-1.158"  "0"   "1.23"    "1.062"
##                      "-1.158"  "0"   "1.23"    "1.062"
##                      "-1.158"  "0"   "1.23"    "1.062"
##                      "-1.158"  "0"   "1.23"    "1.062"
##                      "-1.158"  "0"   "1.18"    "1.019"
##                      "-1.158"  "0"   "1.23"    "1.062"
##                      "-1.158"  "4"   "6.53"    "2.186"
##                      "-1.159"  "0"   "1.29"    "1.113"
##                      "-1.16"   "0"   "1.33"    "1.146"
##                      "-1.16"   "0"   "1.43"    "1.233"
##                      "-1.16"   "0"   "1.45"    "1.25"
##                      "-1.16"   "0"   "1.43"    "1.233"
##                      "-1.161"  "0"   "1.48"    "1.275"
##                      "-1.161"  "1"   "2.97"    "1.696"
##                      "-1.161"  "1"   "2.75"    "1.507"
##                      "-1.162"  "0"   "1.5"     "1.291"
##                      "-1.162"  "0"   "1.28"    "1.102"
```

```
##                     "-1.162"  "336"  "363.73"  "23.857"
##                     "-1.163"  "1"    "2.88"    "1.616"
##                     "-1.163"  "7"    "10.68"   "3.165"
##                     "-1.164"  "0"    "1.19"    "1.022"
##                     "-1.165"  "0"    "1.27"    "1.09"
##                     "-1.165"  "7"    "10.86"   "3.312"
##                     "-1.166"  "0"    "1.54"    "1.321"
##                     "-1.166"  "0"    "1.21"    "1.038"
##                     "-1.166"  "0"    "1.21"    "1.038"
##                     "-1.166"  "0"    "1.21"    "1.038"
##                     "-1.166"  "0"    "1.21"    "1.038"
##                     "-1.167"  "37"   "44.65"   "6.557"
##                     "-1.167"  "26"   "32.08"   "5.21"
##                     "-1.167"  "1"    "3.67"    "2.288"
##                     "-1.167"  "0"    "1.6"     "1.371"
##                     "-1.168"  "0"    "1.41"    "1.207"
##                     "-1.168"  "33"   "40.22"   "6.182"
##                     "-1.168"  "0"    "1.43"    "1.225"
##                     "-1.169"  "0"    "1.29"    "1.104"
##                     "-1.169"  "1"    "2.97"    "1.684"
##                     "-1.169"  "1"    "3.49"    "2.13"
##                     "-1.17"   "0"    "1.17"    "0.888"
##                     "-1.17"   "3"    "5.93"    "2.504"
##                     "-1.17"   "42"   "50.35"   "7.138"
##                     "-1.17"   "1"    "2.83"    "1.564"
##                     "-1.17"   "0"    "1.18"    "1.009"
##                     "-1.17"   "0"    "1.18"    "1.009"
##                     "-1.17"   "0"    "1.18"    "1.009"
##                     "-1.171"  "0"    "1.25"    "1.067"
##                     "-1.171"  "0"    "1.25"    "1.067"
##                     "-1.171"  "0"    "1.25"    "1.067"
##                     "-1.172"  "0"    "1.71"    "1.458"
##                     "-1.172"  "4"    "7.41"    "2.91"
##                     "-1.172"  "1"    "3.05"    "1.749"
##                     "-1.173"  "0"    "1.69"    "1.44"
##                     "-1.173"  "3"    "5.86"    "2.437"
##                     "-1.173"  "22"   "27.82"   "4.963"
##                     "-1.173"  "1"    "2.92"    "1.637"
##                     "-1.173"  "0"    "1.22"    "1.04"
##                     "-1.174"  "2"    "4.81"    "2.394"
##                     "-1.176"  "1"    "3.28"    "1.939"
##                     "-1.176"  "1"    "3.28"    "1.939"
##                     "-1.176"  "1"    "3.28"    "1.939"
##                     "-1.176"  "1"    "3.28"    "1.939"
##                     "-1.176"  "1"    "3.28"    "1.939"
##                     "-1.178"  "7"    "10.62"   "3.074"
##                     "-1.179"  "0"    "1.23"    "1.043"
##                     "-1.18"   "10"   "14.7"    "3.984"
##                     "-1.181"  "1"    "2.99"    "1.685"
##                     "-1.181"  "3"    "5.66"    "2.253"
##                     "-1.182"  "0"    "1.2"     "1.015"
##                     "-1.183"  "0"    "1.46"    "1.234"
##                     "-1.183"  "0"    "1.31"    "1.107"
##                     "-1.183"  "0"    "1.31"    "1.107"
```

```
##                   "-1.183"   "0"     "1.47"    "1.243"
##                   "-1.183"   "0"     "1.31"    "1.107"
##                   "-1.183"   "0"     "1.47"    "1.243"
##                   "-1.183"   "0"     "1.75"    "1.48"
##                   "-1.185"   "1"     "2.83"    "1.544"
##                   "-1.185"   "14"    "18.61"   "3.89"
##                   "-1.186"   "2"     "4.37"    "1.998"
##                   "-1.186"   "0"     "1.3"     "1.096"
##                   "-1.186"   "2"     "4.71"    "2.284"
##                   "-1.186"   "0"     "1.3"     "1.096"
##                   "-1.186"   "0"     "1.24"    "1.046"
##                   "-1.187"   "2"     "5.03"    "2.552"
##                   "-1.187"   "0"     "1.39"    "1.171"
##                   "-1.187"   "0"     "1.7"     "1.432"
##                   "-1.188"   "1"     "3.16"    "1.819"
##                   "-1.188"   "0"     "1.19"    "1.002"
##                   "-1.188"   "8"     "12.06"   "3.417"
##                   "-1.189"   "0"     "1.81"    "1.522"
##                   "-1.189"   "0"     "1.81"    "1.522"
##                   "-1.189"   "1"     "3.02"    "1.7"
##                   "-1.19"    "0"     "1.32"    "1.109"
##                   "-1.19"    "0"     "1.37"    "1.152"
##                   "-1.19"    "0"     "1.32"    "1.109"
##                   "-1.19"    "2"     "4.29"    "1.924"
##                   "-1.191"   "30"    "35.87"   "4.929"
##                   "-1.191"   "0"     "1.49"    "1.251"
##                   "-1.191"   "0"     "1.45"    "1.218"
##                   "-1.191"   "0"     "1.69"    "1.419"
##                   "-1.191"   "3"     "5.3"     "1.931"
##                   "-1.192"   "0"     "1.51"    "1.267"
##                   "-1.192"   "0"     "1.51"    "1.267"
##                   "-1.192"   "0"     "1.51"    "1.267"
##                   "-1.192"   "0"     "1.51"    "1.267"
##                   "-1.193"   "12"    "17.08"   "4.259"
##                   "-1.193"   "1"     "2.9"     "1.592"
##                   "-1.193"   "6"     "9.12"    "2.614"
##                   "-1.193"   "0"     "1.42"    "1.191"
##                   "-1.193"   "6"     "9.12"    "2.614"
##                   "-1.195"   "0"     "1.83"    "1.531"
##                   "-1.195"   "9"     "13.18"   "3.497"
##                   "-1.196"   "0"     "1.3"     "1.087"
##                   "-1.196"   "33"    "41.09"   "6.765"
##                   "-1.197"   "10"    "14.22"   "3.526"
##                   "-1.197"   "0"     "1.24"    "1.036"
##                   "-1.198"   "0"     "1.63"    "1.361"
##                   "-1.199"   "0"     "1.26"    "1.05"
##                   "-1.2"     "0"     "1.86"    "1.551"
##                   "-1.2"     "0"     "1.53"    "1.275"
##                   "-1.2"     "15"    "20.49"   "4.574"
##                   "-1.201"   "61"    "69.71"   "7.252"
##                   "-1.201"   "284"   "310.7"   "22.232"
##                   "-1.202"   "1"     "3.21"    "1.838"
##                   "-1.202"   "1"     "3.15"    "1.789"
##                   "-1.202"   "2"     "4.68"    "2.229"
```

```
##                     "-1.202"  "1"     "2.95"    "1.623"
##                     "-1.203"  "1"     "2.84"    "1.529"
##                     "-1.203"  "0"     "1.4"     "1.163"
##                     "-1.205"  "3"     "5.65"    "2.199"
##                     "-1.205"  "0"     "1.92"    "1.593"
##                     "-1.206"  "1"     "3.16"    "1.791"
##                     "-1.206"  "1"     "2.91"    "1.583"
##                     "-1.206"  "0"     "1.64"    "1.36"
##                     "-1.206"  "0"     "1.3"     "1.078"
##                     "-1.206"  "5"     "8.18"    "2.638"
##                     "-1.206"  "0"     "1.59"    "1.319"
##                     "-1.206"  "0"     "1.59"    "1.319"
##                     "-1.206"  "0"     "1.59"    "1.319"
##                     "-1.207"  "0"     "1.48"    "1.227"
##                     "-1.207"  "13"    "17.45"   "3.688"
##                     "-1.207"  "0"     "1.46"    "1.21"
##                     "-1.207"  "1"     "2.99"    "1.648"
##                     "-1.207"  "6"     "9.57"    "2.958"
##                     "-1.208"  "1"     "2.76"    "1.457"
##                     "-1.208"  "20"    "25.22"   "4.32"
##                     "-1.209"  "3"     "5.76"    "2.284"
##                     "-1.209"  "101"   "113.01"  "9.938"
##                     "-1.21"   "0"     "1.42"    "1.174"
##                     "-1.21"   "0"     "1.32"    "1.091"
##                     "-1.21"   "0"     "1.62"    "1.339"
##                     "-1.21"   "0"     "1.62"    "1.339"
##                     "-1.21"   "0"     "1.42"    "1.174"
##                     "-1.211"  "2"     "5.14"    "2.594"
##                     "-1.211"  "0"     "1.26"    "1.041"
##                     "-1.211"  "0"     "1.26"    "1.041"
##                     "-1.211"  "106"   "117.01"  "9.093"
##                     "-1.211"  "0"     "1.26"    "1.041"
##                     "-1.211"  "3"     "6.48"    "2.873"
##                     "-1.212"  "0"     "1.35"    "1.114"
##                     "-1.212"  "0"     "1.35"    "1.114"
##                     "-1.214"  "40"    "47.39"   "6.088"
##                     "-1.214"  "0"     "1.39"    "1.145"
##                     "-1.214"  "1674"  "1731.6"  "47.454"
##                     "-1.214"  "23"    "29.83"   "5.625"
##                     "-1.214"  "3"     "6.01"    "2.48"
##                     "-1.216"  "8"     "12.26"   "3.504"
##                     "-1.217"  "1"     "2.62"    "1.332"
##                     "-1.217"  "7"     "10.47"   "2.851"
##                     "-1.218"  "0"     "1.7"     "1.396"
##                     "-1.218"  "0"     "1.7"     "1.396"
##                     "-1.219"  "0"     "1.8"     "1.477"
##                     "-1.219"  "0"     "1.22"    "1.001"
##                     "-1.22"   "0"     "1.64"    "1.345"
##                     "-1.22"   "0"     "1.59"    "1.303"
##                     "-1.22"   "0"     "1.22"    "0.98"
##                     "-1.221"  "0"     "1.6"     "1.31"
##                     "-1.221"  "7"     "10.67"   "3.005"
##                     "-1.221"  "0"     "1.6"     "1.31"
##                     "-1.221"  "0"     "1.29"    "1.057"
```

```
##                      "-1.221"   "0"     "1.32"      "1.081"
##                      "-1.221"   "1"     "3.62"      "2.145"
##                      "-1.222"   "2"     "4.56"      "2.095"
##                      "-1.222"   "0"     "1.4"       "1.146"
##                      "-1.222"   "0"     "1.69"      "1.383"
##                      "-1.222"   "0"     "1.69"      "1.383"
##                      "-1.222"   "0"     "1.69"      "1.383"
##                      "-1.222"   "0"     "1.69"      "1.383"
##                      "-1.222"   "33"    "40.29"     "5.963"
##                      "-1.223"   "4"     "7.88"      "3.173"
##                      "-1.223"   "0"     "1.47"      "1.201"
##                      "-1.224"   "0"     "1.46"      "1.193"
##                      "-1.224"   "0"     "1.55"      "1.266"
##                      "-1.224"   "0"     "1.46"      "1.193"
##                      "-1.224"   "0"     "1.46"      "1.193"
##                      "-1.225"   "3"     "6.09"      "2.523"
##                      "-1.225"   "1"     "3"         "1.633"
##                      "-1.225"   "2"     "4.66"      "2.171"
##                      "-1.225"   "10"    "14.8"      "3.918"
##                      "-1.227"   "0"     "1.25"      "1.019"
##                      "-1.227"   "12"    "16.64"     "3.781"
##                      "-1.227"   "3"     "5.87"      "2.338"
##                      "-1.227"   "34"    "42.58"     "6.995"
##                      "-1.227"   "27"    "33.37"     "5.191"
##                      "-1.227"   "0"     "1.74"      "1.419"
##                      "-1.228"   "1"     "2.85"      "1.507"
##                      "-1.228"   "0"     "1.42"      "1.156"
##                      "-1.228"   "0"     "1.77"      "1.441"
##                      "-1.228"   "2"     "4.49"      "2.028"
##                      "-1.228"   "0"     "1.77"      "1.441"
##                      "-1.229"   "2"     "4.81"      "2.286"
##                      "-1.229"   "52"    "60.56"     "6.965"
##                      "-1.23"    "0"     "1.36"      "1.106"
##                      "-1.23"    "1"     "3.45"      "1.992"
##                      "-1.23"    "0"     "1.84"      "1.496"
##                      "-1.23"    "0"     "1.41"      "1.147"
##                      "-1.23"    "0"     "1.23"      "0.983"
##                      "-1.231"   "2"     "5.02"      "2.454"
##                      "-1.231"   "8"     "11.93"     "3.192"
##                      "-1.232"   "0"     "1.24"      "1.006"
##                      "-1.232"   "118"   "131.51"    "10.966"
##                      "-1.232"   "9"     "13.11"     "3.336"
##                      "-1.232"   "0"     "1.29"      "1.047"
##                      "-1.233"   "0"     "1.35"      "1.095"
##                      "-1.233"   "6"     "9.92"      "3.18"
##                      "-1.235"   "0"     "1.44"      "1.166"
##                      "-1.236"   "0"     "1.34"      "1.085"
##                      "-1.236"   "0"     "1.34"      "1.085"
##                      "-1.236"   "0"     "1.34"      "1.085"
##                      "-1.236"   "0"     "1.86"      "1.504"
##                      "-1.237"   "0"     "1.42"      "1.148"
##                      "-1.238"   "1"     "3.17"      "1.753"
##                      "-1.239"   "0"     "1.51"      "1.219"
##                      "-1.239"   "0"     "1.54"      "1.243"
```

```
##                     "-1.24"   "0"     "1.24"     "0.911"
##                     "-1.24"   "0"     "1.24"     "0.996"
##                     "-1.24"   "48"    "56.7"     "7.016"
##                     "-1.24"   "0"     "1.68"     "1.355"
##                     "-1.24"   "0"     "1.48"     "1.193"
##                     "-1.24"   "1"     "2.92"     "1.548"
##                     "-1.242"  "4"     "7.86"     "3.108"
##                     "-1.242"  "2"     "4.14"     "1.723"
##                     "-1.242"  "2"     "4.5"      "2.013"
##                     "-1.243"  "0"     "1.6"      "1.287"
##                     "-1.243"  "0"     "1.29"     "1.038"
##                     "-1.243"  "0"     "1.35"     "1.086"
##                     "-1.244"  "10"    "14.63"    "3.722"
##                     "-1.245"  "1"     "2.79"     "1.438"
##                     "-1.247"  "0"     "1.68"     "1.348"
##                     "-1.247"  "4"     "6.96"     "2.374"
##                     "-1.247"  "0"     "1.42"     "1.139"
##                     "-1.247"  "0"     "1.42"     "1.139"
##                     "-1.247"  "0"     "1.42"     "1.139"
##                     "-1.247"  "1"     "3.49"     "1.997"
##                     "-1.248"  "0"     "1.5"      "1.202"
##                     "-1.248"  "0"     "1.28"     "1.026"
##                     "-1.248"  "0"     "1.55"     "1.242"
##                     "-1.248"  "0"     "1.51"     "1.21"
##                     "-1.249"  "292"   "315.27"   "18.624"
##                     "-1.25"   "0"     "1.3"      "1.04"
##                     "-1.25"   "6"     "9.68"     "2.944"
##                     "-1.25"   "0"     "1.3"      "1.04"
##                     "-1.25"   "1"     "3.25"     "1.8"
##                     "-1.25"   "1"     "3.25"     "1.8"
##                     "-1.25"   "2"     "4.12"     "1.695"
##                     "-1.25"   "1"     "3.12"     "1.695"
##                     "-1.251"  "1"     "3.11"     "1.687"
##                     "-1.251"  "1"     "3.11"     "1.687"
##                     "-1.251"  "0"     "1.4"      "1.119"
##                     "-1.251"  "0"     "1.4"      "1.119"
##                     "-1.251"  "0"     "1.4"      "1.119"
##                     "-1.252"  "2"     "4.83"     "2.261"
##                     "-1.252"  "3"     "6.57"     "2.851"
##                     "-1.253"  "0"     "1.27"     "1.014"
##                     "-1.254"  "37"    "45.92"    "7.113"
##                     "-1.255"  "1"     "3.11"     "1.681"
##                     "-1.255"  "0"     "1.78"     "1.418"
##                     "-1.256"  "14"    "19.54"    "4.409"
##                     "-1.256"  "0"     "1.51"     "1.202"
##                     "-1.257"  "0"     "1.58"     "1.257"
##                     "-1.257"  "4"     "7.67"     "2.92"
##                     "-1.257"  "2"     "4.59"     "2.06"
##                     "-1.257"  "0"     "1.58"     "1.257"
##                     "-1.257"  "3"     "5.9"      "2.307"
##                     "-1.257"  "0"     "1.58"     "1.257"
##                     "-1.257"  "7"     "11.09"    "3.254"
##                     "-1.257"  "0"     "1.7"      "1.352"
##                     "-1.257"  "2"     "4.59"     "2.06"
```

```
##                       "-1.258"  "84"    "95.75"   "9.341"
##                       "-1.258"  "0"     "1.66"    "1.32"
##                       "-1.258"  "0"     "1.66"    "1.32"
##                       "-1.258"  "0"     "1.97"    "1.566"
##                       "-1.259"  "20"    "27"      "5.561"
##                       "-1.259"  "1"     "3.27"    "1.803"
##                       "-1.259"  "1"     "3.27"    "1.803"
##                       "-1.259"  "19"    "25.42"   "5.099"
##                       "-1.259"  "0"     "1.71"    "1.358"
##                       "-1.26"   "0"     "1.62"    "1.285"
##                       "-1.261"  "11"    "16.11"   "4.052"
##                       "-1.263"  "0"     "1.94"    "1.536"
##                       "-1.263"  "0"     "2.18"    "1.726"
##                       "-1.263"  "22"    "28.35"   "5.028"
##                       "-1.264"  "0"     "1.7"     "1.345"
##                       "-1.265"  "0"     "2.1"     "1.661"
##                       "-1.265"  "0"     "1.55"    "1.226"
##                       "-1.266"  "0"     "1.38"    "1.09"
##                       "-1.266"  "0"     "1.8"     "1.421"
##                       "-1.266"  "0"     "1.38"    "1.09"
##                       "-1.266"  "0"     "1.38"    "1.09"
##                       "-1.266"  "6"     "9.77"    "2.978"
##                       "-1.267"  "0"     "1.75"    "1.381"
##                       "-1.267"  "14"    "19.27"   "4.161"
##                       "-1.267"  "109"   "121.81"  "10.113"
##                       "-1.268"  "1"     "3.36"    "1.861"
##                       "-1.268"  "1"     "3.28"    "1.798"
##                       "-1.268"  "1"     "3.36"    "1.861"
##                       "-1.268"  "1"     "3.36"    "1.861"
##                       "-1.268"  "1"     "3.46"    "1.941"
##                       "-1.269"  "0"     "1.37"    "1.079"
##                       "-1.269"  "7"     "11.14"   "3.263"
##                       "-1.269"  "0"     "1.47"    "1.159"
##                       "-1.27"   "0"     "1.27"    "0.962"
##                       "-1.27"   "0"     "1.27"    "0.962"
##                       "-1.27"   "0"     "1.27"    "0.962"
##                       "-1.27"   "0"     "1.27"    "0.962"
##                       "-1.27"   "0"     "1.27"    "0.962"
##                       "-1.272"  "0"     "1.77"    "1.392"
##                       "-1.272"  "0"     "1.77"    "1.392"
##                       "-1.273"  "8"     "12.08"   "3.206"
##                       "-1.273"  "0"     "1.44"    "1.131"
##                       "-1.273"  "1"     "3.43"    "1.908"
##                       "-1.273"  "5"     "8.57"    "2.804"
##                       "-1.274"  "24"    "30.39"   "5.017"
##                       "-1.274"  "0"     "1.75"    "1.373"
##                       "-1.274"  "0"     "1.89"    "1.483"
##                       "-1.275"  "0"     "1.5"     "1.176"
##                       "-1.275"  "0"     "1.5"     "1.176"
##                       "-1.275"  "9"     "13.62"   "3.623"
##                       "-1.275"  "11"    "16.1"    "3.999"
##                       "-1.275"  "0"     "1.72"    "1.349"
##                       "-1.275"  "0"     "1.43"    "1.121"
##                       "-1.275"  "0"     "1.5"     "1.176"
```

```
##                    "-1.276"  "0"    "1.35"    "1.058"
##                    "-1.276"  "1"    "3.18"    "1.708"
##                    "-1.276"  "0"    "1.49"    "1.168"
##                    "-1.276"  "0"    "1.49"    "1.168"
##                    "-1.276"  "7"    "10.64"   "2.852"
##                    "-1.277"  "0"    "1.38"    "1.08"
##                    "-1.278"  "0"    "1.82"    "1.424"
##                    "-1.279"  "32"   "39.24"   "5.659"
##                    "-1.279"  "74"   "83.88"   "7.725"
##                    "-1.279"  "0"    "1.74"    "1.36"
##                    "-1.28"   "74"   "85.33"   "8.852"
##                    "-1.28"   "0"    "2.4"     "1.875"
##                    "-1.281"  "1"    "3.38"    "1.857"
##                    "-1.282"  "1"    "2.81"    "1.412"
##                    "-1.282"  "0"    "1.55"    "1.209"
##                    "-1.282"  "0"    "1.53"    "1.193"
##                    "-1.283"  "0"    "1.88"    "1.465"
##                    "-1.283"  "0"    "1.61"    "1.254"
##                    "-1.283"  "0"    "1.6"     "1.247"
##                    "-1.285"  "2"    "4.84"    "2.21"
##                    "-1.285"  "1"    "3.38"    "1.852"
##                    "-1.285"  "6"    "10.29"   "3.337"
##                    "-1.286"  "1"    "3.69"    "2.092"
##                    "-1.286"  "5"    "9.32"    "3.36"
##                    "-1.286"  "0"    "1.8"     "1.4"
##                    "-1.286"  "0"    "1.8"     "1.4"
##                    "-1.287"  "0"    "1.93"    "1.499"
##                    "-1.287"  "1"    "3.25"    "1.749"
##                    "-1.287"  "0"    "2.26"    "1.756"
##                    "-1.288"  "26"   "32.03"   "4.683"
##                    "-1.288"  "0"    "1.71"    "1.328"
##                    "-1.289"  "11"   "16.13"   "3.979"
##                    "-1.29"   "0"    "1.29"    "0.967"
##                    "-1.29"   "0"    "2"       "1.55"
##                    "-1.29"   "1"    "3.93"    "2.271"
##                    "-1.29"   "4"    "7.75"    "2.907"
##                    "-1.29"   "6"    "9.98"    "3.085"
##                    "-1.29"   "0"    "1.46"    "1.132"
##                    "-1.29"   "0"    "1.46"    "1.132"
##                    "-1.291"  "8"    "12.92"   "3.81"
##                    "-1.291"  "1"    "3.43"    "1.882"
##                    "-1.291"  "0"    "1.57"    "1.217"
##                    "-1.291"  "0"    "1.55"    "1.201"
##                    "-1.293"  "4"    "7.12"    "2.413"
##                    "-1.293"  "2"    "4.67"    "2.065"
##                    "-1.293"  "0"    "1.8"     "1.393"
##                    "-1.293"  "83"   "96.71"   "10.602"
##                    "-1.294"  "15"   "20.24"   "4.048"
##                    "-1.296"  "1"    "3.41"    "1.859"
##                    "-1.296"  "1"    "3.41"    "1.859"
##                    "-1.296"  "2"    "5.28"    "2.531"
##                    "-1.296"  "11"   "16.26"   "4.059"
##                    "-1.297"  "0"    "1.33"    "1.025"
##                    "-1.298"  "79"   "89.92"   "8.413"
```

```
##                    "-1.299"  "0"    "1.8"     "1.385"
##                    "-1.3"    "11"   "15.54"   "3.491"
##                    "-1.3"    "0"    "1.46"    "1.123"
##                    "-1.3"    "0"    "1.3"     "0.99"
##                    "-1.3"    "0"    "1.46"    "1.123"
##                    "-1.3"    "0"    "1.46"    "1.123"
##                    "-1.3"    "0"    "1.46"    "1.123"
##                    "-1.301"  "12"   "17.55"   "4.265"
##                    "-1.301"  "0"    "1.62"    "1.245"
##                    "-1.301"  "0"    "1.62"    "1.245"
##                    "-1.301"  "0"    "1.62"    "1.245"
##                    "-1.302"  "8"    "11.93"   "3.019"
##                    "-1.303"  "0"    "2.32"    "1.78"
##                    "-1.303"  "11"   "16.25"   "4.029"
##                    "-1.303"  "2"    "4.37"    "1.818"
##                    "-1.304"  "0"    "1.76"    "1.349"
##                    "-1.304"  "39"   "47.48"   "6.505"
##                    "-1.304"  "17"   "23.55"   "5.022"
##                    "-1.304"  "35"   "43.5"    "6.517"
##                    "-1.305"  "13"   "18.25"   "4.024"
##                    "-1.306"  "86"   "99.74"   "10.521"
##                    "-1.306"  "0"    "1.68"    "1.286"
##                    "-1.308"  "13"   "18.58"   "4.264"
##                    "-1.308"  "18"   "24.28"   "4.801"
##                    "-1.309"  "0"    "1.7"     "1.299"
##                    "-1.309"  "1"    "3.42"    "1.849"
##                    "-1.309"  "0"    "1.62"    "1.237"
##                    "-1.31"   "0"    "1.75"    "1.336"
##                    "-1.31"   "0"    "1.63"    "1.244"
##                    "-1.311"  "0"    "1.89"    "1.442"
##                    "-1.311"  "0"    "1.89"    "1.442"
##                    "-1.312"  "2"    "4.44"    "1.86"
##                    "-1.312"  "9"    "14.7"    "4.345"
##                    "-1.312"  "0"    "1.72"    "1.311"
##                    "-1.313"  "0"    "1.51"    "1.15"
##                    "-1.313"  "0"    "1.51"    "1.15"
##                    "-1.314"  "0"    "1.92"    "1.461"
##                    "-1.315"  "54"   "64.33"   "7.854"
##                    "-1.316"  "0"    "1.78"    "1.353"
##                    "-1.316"  "0"    "2.01"    "1.527"
##                    "-1.316"  "0"    "1.84"    "1.398"
##                    "-1.316"  "42"   "51.26"   "7.035"
##                    "-1.316"  "9"    "14.06"   "3.845"
##                    "-1.317"  "2"    "4.72"    "2.065"
##                    "-1.317"  "0"    "1.7"     "1.291"
##                    "-1.317"  "0"    "2.07"    "1.572"
##                    "-1.317"  "13"   "18.62"   "4.266"
##                    "-1.318"  "6"    "10.51"   "3.422"
##                    "-1.318"  "0"    "1.79"    "1.358"
##                    "-1.32"   "1"    "3.6"     "1.969"
##                    "-1.32"   "0"    "1.32"    "0.994"
##                    "-1.321"  "0"    "1.42"    "1.075"
##                    "-1.322"  "10"   "14.92"   "3.722"
##                    "-1.322"  "0"    "2.04"    "1.543"
```

```
##                     "-1.322"  "76"   "87.97"   "9.056"
##                     "-1.323"  "6"    "10.03"   "3.047"
##                     "-1.324"  "1"    "3.1"     "1.586"
##                     "-1.327"  "0"    "1.63"    "1.228"
##                     "-1.328"  "1"    "3.62"    "1.973"
##                     "-1.328"  "0"    "2.19"    "1.65"
##                     "-1.328"  "0"    "1.64"    "1.235"
##                     "-1.329"  "4"    "7.64"    "2.74"
##                     "-1.329"  "0"    "1.54"    "1.158"
##                     "-1.329"  "3"    "6.35"    "2.52"
##                     "-1.33"   "0"    "1.33"    "0.995"
##                     "-1.33"   "0"    "1.34"    "1.007"
##                     "-1.332"  "0"    "2.08"    "1.561"
##                     "-1.333"  "4"    "7.47"    "2.603"
##                     "-1.333"  "1"    "3.69"    "2.019"
##                     "-1.333"  "0"    "2.19"    "1.643"
##                     "-1.333"  "128"  "144.67"  "12.501"
##                     "-1.333"  "81"   "92.74"   "8.806"
##                     "-1.333"  "4"    "7.47"    "2.603"
##                     "-1.334"  "13"   "18.35"   "4.011"
##                     "-1.334"  "1"    "3.6"     "1.949"
##                     "-1.335"  "0"    "2.03"    "1.521"
##                     "-1.335"  "0"    "1.8"     "1.348"
##                     "-1.335"  "20"   "26.57"   "4.922"
##                     "-1.335"  "66"   "77.86"   "8.882"
##                     "-1.336"  "1"    "3.61"    "1.953"
##                     "-1.336"  "0"    "1.38"    "1.033"
##                     "-1.336"  "0"    "2"       "1.497"
##                     "-1.336"  "0"    "1.41"    "1.055"
##                     "-1.336"  "1"    "3.36"    "1.767"
##                     "-1.337"  "0"    "2.02"    "1.511"
##                     "-1.338"  "14"   "20.12"   "4.575"
##                     "-1.338"  "2"    "4.58"    "1.929"
##                     "-1.338"  "0"    "1.56"    "1.166"
##                     "-1.338"  "4"    "7.52"    "2.63"
##                     "-1.339"  "0"    "1.67"    "1.248"
##                     "-1.339"  "1"    "3.34"    "1.748"
##                     "-1.339"  "1"    "3.34"    "1.748"
##                     "-1.339"  "5"    "8.63"    "2.71"
##                     "-1.339"  "0"    "1.55"    "1.158"
##                     "-1.34"   "61"   "72.24"   "8.388"
##                     "-1.34"   "0"    "1.34"    "0.997"
##                     "-1.34"   "0"    "1.92"    "1.433"
##                     "-1.341"  "1"    "3.51"    "1.872"
##                     "-1.341"  "0"    "1.47"    "1.096"
##                     "-1.341"  "0"    "1.47"    "1.096"
##                     "-1.341"  "0"    "1.43"    "1.066"
##                     "-1.342"  "8"    "12.71"   "3.508"
##                     "-1.342"  "0"    "2.2"     "1.639"
##                     "-1.342"  "0"    "1.52"    "1.132"
##                     "-1.342"  "4"    "7.57"    "2.66"
##                     "-1.342"  "1"    "3.31"    "1.721"
##                     "-1.343"  "6"    "10.04"   "3.008"
##                     "-1.343"  "0"    "1.95"    "1.452"
```

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```
##                     "-1.344"  "0"     "1.77"     "1.317"
##                     "-1.344"  "28"    "36.89"    "6.616"
##                     "-1.344"  "0"     "1.72"     "1.28"
##                     "-1.345"  "31"    "39.09"    "6.014"
##                     "-1.345"  "3"     "6.41"     "2.535"
##                     "-1.346"  "0"     "2.24"     "1.664"
##                     "-1.346"  "0"     "2.24"     "1.664"
##                     "-1.346"  "1"     "3.23"     "1.657"
##                     "-1.347"  "9"     "13.88"    "3.622"
##                     "-1.347"  "0"     "1.57"     "1.166"
##                     "-1.347"  "139"   "154.38"   "11.417"
##                     "-1.347"  "5"     "8.89"     "2.888"
##                     "-1.347"  "8"     "12.7"     "3.489"
##                     "-1.348"  "0"     "1.75"     "1.298"
##                     "-1.348"  "54"    "65.1"     "8.232"
##                     "-1.348"  "1"     "3.83"     "2.099"
##                     "-1.349"  "2"     "5.11"     "2.305"
##                     "-1.349"  "20"    "27.11"    "5.272"
##                     "-1.349"  "1"     "3.12"     "1.572"
##                     "-1.349"  "10"    "15.16"    "3.824"
##                     "-1.352"  "1"     "3.2"      "1.627"
##                     "-1.353"  "0"     "2.06"     "1.523"
##                     "-1.353"  "366"   "399.91"   "25.06"
##                     "-1.353"  "45"    "54.92"    "7.334"
##                     "-1.354"  "1"     "3.52"     "1.861"
##                     "-1.354"  "0"     "1.73"     "1.278"
##                     "-1.355"  "0"     "1.64"     "1.21"
##                     "-1.355"  "0"     "1.64"     "1.21"
##                     "-1.355"  "22"    "29.19"    "5.308"
##                     "-1.355"  "0"     "1.64"     "1.21"
##                     "-1.355"  "2"     "4.26"     "1.667"
##                     "-1.355"  "2"     "4.26"     "1.667"
##                     "-1.355"  "0"     "1.64"     "1.21"
##                     "-1.355"  "0"     "1.74"     "1.284"
##                     "-1.355"  "2"     "4.26"     "1.667"
##                     "-1.355"  "0"     "1.64"     "1.21"
##                     "-1.355"  "0"     "1.64"     "1.21"
##                     "-1.355"  "0"     "1.64"     "1.21"
##                     "-1.355"  "0"     "1.64"     "1.21"
##                     "-1.356"  "2"     "5.05"     "2.249"
##                     "-1.356"  "1"     "3.22"     "1.637"
##                     "-1.357"  "25"    "33.03"    "5.916"
##                     "-1.357"  "0"     "1.91"     "1.408"
##                     "-1.358"  "1"     "3.37"     "1.745"
##                     "-1.358"  "0"     "1.89"     "1.392"
##                     "-1.359"  "7"     "11.1"     "3.017"
##                     "-1.359"  "10"    "15.3"     "3.899"
##                     "-1.359"  "0"     "1.84"     "1.354"
##                     "-1.36"   "0"     "2"        "1.47"
##                     "-1.36"   "0"     "1.71"     "1.258"
##                     "-1.36"   "0"     "1.71"     "1.258"
##                     "-1.36"   "0"     "2"        "1.47"
##                     "-1.36"   "0"     "1.71"     "1.258"
##                     "-1.361"  "0"     "1.54"     "1.132"
```

```
##                    "-1.362"  "10"   "15.74"   "4.215"
##                    "-1.362"  "1"    "3.89"    "2.122"
##                    "-1.362"  "0"    "1.53"    "1.123"
##                    "-1.363"  "0"    "1.99"    "1.46"
##                    "-1.363"  "14"   "20.14"   "4.504"
##                    "-1.364"  "5"    "9.34"    "3.182"
##                    "-1.365"  "0"    "2.06"    "1.51"
##                    "-1.365"  "0"    "1.6"     "1.172"
##                    "-1.365"  "2"    "4.68"    "1.964"
##                    "-1.367"  "4"    "7.37"    "2.465"
##                    "-1.367"  "0"    "1.87"    "1.368"
##                    "-1.367"  "11"   "17.61"   "4.834"
##                    "-1.367"  "1"    "3.84"    "2.078"
##                    "-1.367"  "0"    "2.15"    "1.572"
##                    "-1.368"  "1"    "5.39"    "3.21"
##                    "-1.369"  "3"    "6.13"    "2.286"
##                    "-1.369"  "13"   "18.55"   "4.054"
##                    "-1.37"   "0"    "1.82"    "1.329"
##                    "-1.37"   "1"    "3.26"    "1.649"
##                    "-1.371"  "0"    "1.54"    "1.123"
##                    "-1.372"  "0"    "1.83"    "1.334"
##                    "-1.372"  "0"    "1.83"    "1.334"
##                    "-1.373"  "0"    "1.96"    "1.428"
##                    "-1.373"  "1"    "3.7"     "1.967"
##                    "-1.373"  "0"    "2.15"    "1.566"
##                    "-1.374"  "0"    "1.63"    "1.186"
##                    "-1.376"  "3"    "6.85"    "2.797"
##                    "-1.376"  "0"    "1.59"    "1.156"
##                    "-1.376"  "0"    "1.77"    "1.286"
##                    "-1.377"  "0"    "1.88"    "1.365"
##                    "-1.377"  "8"    "12.66"   "3.385"
##                    "-1.378"  "6"    "10.84"   "3.513"
##                    "-1.379"  "385"  "420.01"  "25.381"
##                    "-1.379"  "0"    "1.43"    "1.037"
##                    "-1.379"  "34"   "42.29"   "6.012"
##                    "-1.379"  "0"    "1.98"    "1.435"
##                    "-1.38"   "0"    "1.83"    "1.326"
##                    "-1.38"   "14"   "20.71"   "4.862"
##                    "-1.38"   "0"    "1.83"    "1.326"
##                    "-1.38"   "0"    "1.83"    "1.326"
##                    "-1.38"   "0"    "1.83"    "1.326"
##                    "-1.381"  "1"    "3.18"    "1.579"
##                    "-1.382"  "0"    "1.9"     "1.374"
##                    "-1.383"  "0"    "2.01"    "1.453"
##                    "-1.383"  "0"    "2.01"    "1.453"
##                    "-1.383"  "0"    "2.01"    "1.453"
##                    "-1.383"  "91"   "104.47"  "9.741"
##                    "-1.385"  "13"   "19.27"   "4.526"
##                    "-1.385"  "0"    "1.69"    "1.22"
##                    "-1.385"  "0"    "1.69"    "1.22"
##                    "-1.385"  "0"    "1.69"    "1.22"
##                    "-1.385"  "45"   "54.58"   "6.918"
##                    "-1.385"  "8"    "12.97"   "3.589"
##                    "-1.386"  "26"   "34.14"   "5.872"
```

```
##                     "-1.386" "0"   "2.18"  "1.572"
##                     "-1.387" "22"  "29.4"  "5.335"
##                     "-1.387" "11"  "17.3"  "4.543"
##                     "-1.387" "0"   "1.86"  "1.341"
##                     "-1.387" "0"   "1.89"  "1.363"
##                     "-1.388" "68"  "80.16" "8.759"
##                     "-1.388" "0"   "1.83"  "1.319"
##                     "-1.388" "0"   "1.83"  "1.319"
##                     "-1.388" "0"   "1.92"  "1.383"
##                     "-1.39"  "0"   "1.84"  "1.324"
##                     "-1.39"  "0"   "1.9"   "1.367"
##                     "-1.391" "15"  "20.93" "4.262"
##                     "-1.392" "8"   "12.7"  "3.377"
##                     "-1.392" "16"  "22.59" "4.736"
##                     "-1.392" "0"   "1.85"  "1.329"
##                     "-1.393" "0"   "2"     "1.435"
##                     "-1.393" "30"  "37.03" "5.046"
##                     "-1.395" "1"   "3.48"  "1.778"
##                     "-1.396" "6"   "10.51" "3.23"
##                     "-1.396" "0"   "1.53"  "1.096"
##                     "-1.396" "5"   "9.46"  "3.195"
##                     "-1.397" "56"  "66.02" "7.173"
##                     "-1.397" "1"   "3.46"  "1.761"
##                     "-1.397" "1"   "3.46"  "1.761"
##                     "-1.397" "0"   "2.25"  "1.61"
##                     "-1.397" "1"   "3.46"  "1.761"
##                     "-1.398" "0"   "2.24"  "1.603"
##                     "-1.398" "13"  "18.16" "3.692"
##                     "-1.4"   "0"   "2.02"  "1.442"
##                     "-1.4"   "0"   "1.4"   "0.995"
##                     "-1.4"   "1"   "3.58"  "1.843"
##                     "-1.4"   "0"   "2.13"  "1.522"
##                     "-1.4"   "0"   "1.85"  "1.321"
##                     "-1.401" "0"   "2.38"  "1.698"
##                     "-1.401" "0"   "2.38"  "1.698"
##                     "-1.401" "0"   "2.12"  "1.513"
##                     "-1.401" "0"   "2.12"  "1.513"
##                     "-1.401" "2"   "5.22"  "2.299"
##                     "-1.401" "0"   "2.38"  "1.698"
##                     "-1.402" "0"   "1.56"  "1.113"
##                     "-1.402" "8"   "13.11" "3.646"
##                     "-1.402" "8"   "13.11" "3.646"
##                     "-1.402" "0"   "1.56"  "1.113"
##                     "-1.402" "0"   "1.56"  "1.113"
##                     "-1.402" "0"   "1.56"  "1.113"
##                     "-1.402" "0"   "1.56"  "1.113"
##                     "-1.402" "2"   "5.85"  "2.746"
##                     "-1.402" "15"  "21.3"  "4.494"
##                     "-1.402" "0"   "1.56"  "1.113"
##                     "-1.403" "0"   "1.86"  "1.326"
##                     "-1.404" "0"   "2.08"  "1.482"
##                     "-1.404" "0"   "1.78"  "1.268"
##                     "-1.404" "0"   "1.65"  "1.175"
##                     "-1.405" "2"   "5.72"  "2.648"
```

```
##                      "-1.405"  "0"    "1.71"    "1.217"
##                      "-1.405"  "3"    "6.07"    "2.185"
##                      "-1.406"  "4"    "7.85"    "2.739"
##                      "-1.407"  "0"    "1.73"    "1.23"
##                      "-1.407"  "0"    "1.73"    "1.23"
##                      "-1.407"  "0"    "1.73"    "1.23"
##                      "-1.408"  "0"    "1.88"    "1.335"
##                      "-1.409"  "1"    "3.86"    "2.03"
##                      "-1.409"  "0"    "2.86"    "2.03"
##                      "-1.409"  "0"    "2.86"    "2.03"
##                      "-1.41"   "5"    "9.08"    "2.894"
##                      "-1.41"   "1"    "4.03"    "2.148"
##                      "-1.41"   "8"    "14.01"   "4.263"
##                      "-1.41"   "0"    "1.89"    "1.34"
##                      "-1.41"   "0"    "1.41"    "0.996"
##                      "-1.412"  "1"    "3.21"    "1.565"
##                      "-1.412"  "5"    "9.02"    "2.846"
##                      "-1.412"  "2"    "5.53"    "2.5"
##                      "-1.412"  "1"    "3.21"    "1.565"
##                      "-1.413"  "3"    "6.39"    "2.399"
##                      "-1.415"  "0"    "1.55"    "1.095"
##                      "-1.415"  "12"   "17.67"   "4.008"
##                      "-1.416"  "0"    "2.23"    "1.575"
##                      "-1.416"  "1"    "4.11"    "2.197"
##                      "-1.416"  "6"    "9.87"    "2.733"
##                      "-1.417"  "12"   "17.16"   "3.642"
##                      "-1.418"  "0"    "2.27"    "1.601"
##                      "-1.418"  "1"    "4.23"    "2.278"
##                      "-1.419"  "1"    "3.44"    "1.719"
##                      "-1.419"  "0"    "1.82"    "1.282"
##                      "-1.42"   "0"    "1.59"    "1.12"
##                      "-1.421"  "0"    "2.02"    "1.421"
##                      "-1.421"  "0"    "2.02"    "1.421"
##                      "-1.422"  "4"    "8.35"    "3.06"
##                      "-1.422"  "0"    "1.78"    "1.252"
##                      "-1.422"  "0"    "1.78"    "1.252"
##                      "-1.422"  "0"    "1.78"    "1.252"
##                      "-1.423"  "0"    "2.98"    "2.094"
##                      "-1.423"  "3"    "6.54"    "2.488"
##                      "-1.423"  "9"    "14.96"   "4.19"
##                      "-1.424"  "6"    "10.79"   "3.364"
##                      "-1.424"  "4"    "7.87"    "2.718"
##                      "-1.424"  "0"    "1.67"    "1.173"
##                      "-1.425"  "0"    "1.72"    "1.207"
##                      "-1.426"  "27"   "35.79"   "6.165"
##                      "-1.426"  "2"    "5.66"    "2.567"
##                      "-1.426"  "1"    "4.02"    "2.118"
##                      "-1.426"  "0"    "1.89"    "1.325"
##                      "-1.426"  "0"    "1.63"    "1.143"
##                      "-1.427"  "11"   "16.62"   "3.938"
##                      "-1.427"  "2"    "4.97"    "2.081"
##                      "-1.428"  "131"  "148.18"  "12.027"
##                      "-1.428"  "0"    "2.71"    "1.898"
##                      "-1.431"  "4"    "8.42"    "3.089"
```

589

```
##                      "-1.431"  "26"    "33.45"   "5.208"
##                      "-1.432"  "7"     "12.51"   "3.847"
##                      "-1.432"  "0"     "2.19"    "1.529"
##                      "-1.432"  "0"     "2.03"    "1.417"
##                      "-1.432"  "0"     "2.01"    "1.403"
##                      "-1.432"  "0"     "2.19"    "1.529"
##                      "-1.433"  "51"    "60.5"    "6.631"
##                      "-1.434"  "4"     "8.72"    "3.291"
##                      "-1.434"  "184"   "204.55"  "14.333"
##                      "-1.434"  "1"     "3.61"    "1.82"
##                      "-1.436"  "38"    "47.28"   "6.462"
##                      "-1.436"  "0"     "1.65"    "1.149"
##                      "-1.436"  "0"     "2"       "1.393"
##                      "-1.436"  "2"     "5.49"    "2.431"
##                      "-1.436"  "0"     "1.65"    "1.149"
##                      "-1.437"  "0"     "1.75"    "1.218"
##                      "-1.437"  "2"     "5.51"    "2.443"
##                      "-1.437"  "3"     "6.26"    "2.268"
##                      "-1.437"  "0"     "2.91"    "2.026"
##                      "-1.438"  "0"     "1.87"    "1.3"
##                      "-1.439"  "2"     "5.8"     "2.64"
##                      "-1.439"  "1"     "3.93"    "2.036"
##                      "-1.441"  "0"     "1.84"    "1.277"
##                      "-1.442"  "1"     "3.63"    "1.824"
##                      "-1.442"  "2"     "5.31"    "2.295"
##                      "-1.442"  "3"     "6.31"    "2.295"
##                      "-1.442"  "15"    "21.7"    "4.646"
##                      "-1.442"  "1"     "3.68"    "1.858"
##                      "-1.443"  "3"     "6.29"    "2.28"
##                      "-1.443"  "0"     "1.89"    "1.31"
##                      "-1.443"  "2"     "4.5"     "1.732"
##                      "-1.444"  "0"     "2.08"    "1.44"
##                      "-1.444"  "0"     "2"       "1.385"
##                      "-1.444"  "1"     "3.64"    "1.829"
##                      "-1.444"  "6"     "11.06"   "3.504"
##                      "-1.444"  "6"     "10.89"   "3.387"
##                      "-1.445"  "46"    "56.63"   "7.356"
##                      "-1.445"  "14"    "20.63"   "4.59"
##                      "-1.446"  "16"    "23.24"   "5.005"
##                      "-1.446"  "1"     "3.6"     "1.798"
##                      "-1.447"  "0"     "1.57"    "1.085"
##                      "-1.447"  "2"     "5.19"    "2.205"
##                      "-1.447"  "0"     "2.03"    "1.403"
##                      "-1.447"  "0"     "2.05"    "1.417"
##                      "-1.447"  "0"     "1.87"    "1.292"
##                      "-1.448"  "0"     "1.83"    "1.264"
##                      "-1.448"  "0"     "1.83"    "1.264"
##                      "-1.448"  "0"     "1.83"    "1.264"
##                      "-1.448"  "0"     "1.83"    "1.264"
##                      "-1.449"  "78"    "91.06"   "9.014"
##                      "-1.449"  "0"     "1.97"    "1.359"
##                      "-1.45"   "5"     "9.76"    "3.282"
##                      "-1.45"   "4"     "8.89"    "3.372"
##                      "-1.45"   "0"     "2.24"    "1.545"
```

```
##                     "-1.451" "11"    "16.38"  "3.709"
##                     "-1.451" "0"     "2.16"   "1.489"
##                     "-1.451" "153"   "173.85" "14.368"
##                     "-1.451" "0"     "2.08"   "1.433"
##                     "-1.451" "0"     "2.13"   "1.468"
##                     "-1.451" "0"     "2.13"   "1.468"
##                     "-1.451" "0"     "2.08"   "1.433"
##                     "-1.452" "2"     "5.08"   "2.121"
##                     "-1.452" "1"     "4.09"   "2.128"
##                     "-1.452" "19"    "25.63"  "4.565"
##                     "-1.452" "1"     "3.61"   "1.797"
##                     "-1.453" "6"     "10.64"  "3.193"
##                     "-1.453" "5"     "9.53"   "3.119"
##                     "-1.453" "15"    "21.38"  "4.392"
##                     "-1.453" "1"     "3.69"   "1.852"
##                     "-1.453" "1"     "3.69"   "1.852"
##                     "-1.454" "247"   "268.1"  "14.511"
##                     "-1.456" "55"    "66.65"  "8.003"
##                     "-1.456" "0"     "1.94"   "1.332"
##                     "-1.457" "1"     "4.25"   "2.231"
##                     "-1.457" "54"    "65.46"  "7.863"
##                     "-1.457" "14"    "20.83"  "4.686"
##                     "-1.458" "0"     "1.65"   "1.132"
##                     "-1.458" "0"     "2.08"   "1.426"
##                     "-1.459" "0"     "2.42"   "1.659"
##                     "-1.459" "6"     "11.35"  "3.666"
##                     "-1.459" "0"     "2.51"   "1.72"
##                     "-1.459" "0"     "2.42"   "1.659"
##                     "-1.459" "0"     "1.84"   "1.261"
##                     "-1.46"  "0"     "2.44"   "1.672"
##                     "-1.46"  "0"     "2.44"   "1.672"
##                     "-1.46"  "0"     "2.15"   "1.473"
##                     "-1.46"  "0"     "2.45"   "1.678"
##                     "-1.46"  "0"     "2.45"   "1.678"
##                     "-1.46"  "0"     "2.45"   "1.678"
##                     "-1.46"  "0"     "2.45"   "1.678"
##                     "-1.461" "0"     "2.75"   "1.882"
##                     "-1.461" "28"    "36.56"  "5.859"
##                     "-1.461" "0"     "2.32"   "1.588"
##                     "-1.462" "2"     "4.87"   "1.963"
##                     "-1.463" "1"     "3.81"   "1.921"
##                     "-1.464" "5"     "8.98"   "2.719"
##                     "-1.465" "1"     "3.6"    "1.775"
##                     "-1.465" "0"     "2.35"   "1.604"
##                     "-1.465" "1"     "3.6"    "1.775"
##                     "-1.465" "0"     "1.97"   "1.344"
##                     "-1.465" "0"     "2.06"   "1.406"
##                     "-1.465" "1"     "3.66"   "1.816"
##                     "-1.465" "0"     "2.06"   "1.406"
##                     "-1.466" "8"     "13.96"  "4.065"
##                     "-1.466" "5"     "9.39"   "2.995"
##                     "-1.467" "0"     "1.88"   "1.281"
##                     "-1.469" "0"     "2.6"    "1.77"
##                     "-1.47"  "9"     "14.13"  "3.489"
```

```
##                     "-1.47"   "9"     "14.13"   "3.489"
##                     "-1.47"   "9"     "14.13"   "3.489"
##                     "-1.47"   "0"     "3.3"     "2.245"
##                     "-1.471"  "5"     "9.39"    "2.984"
##                     "-1.471"  "0"     "1.93"    "1.312"
##                     "-1.472"  "0"     "2.33"    "1.583"
##                     "-1.472"  "7"     "12.67"   "3.851"
##                     "-1.472"  "0"     "2.74"    "1.862"
##                     "-1.472"  "0"     "2.74"    "1.862"
##                     "-1.472"  "1"     "3.72"    "1.848"
##                     "-1.472"  "0"     "2.74"    "1.862"
##                     "-1.473"  "7"     "11.95"   "3.362"
##                     "-1.473"  "7"     "11.95"   "3.362"
##                     "-1.473"  "2"     "5.03"    "2.057"
##                     "-1.473"  "3"     "6.68"    "2.498"
##                     "-1.474"  "0"     "2.3"     "1.56"
##                     "-1.474"  "8"     "12.53"   "3.073"
##                     "-1.474"  "0"     "2.25"    "1.527"
##                     "-1.474"  "5"     "9.25"    "2.883"
##                     "-1.474"  "0"     "2.21"    "1.499"
##                     "-1.475"  "1"     "3.81"    "1.905"
##                     "-1.475"  "22"    "30.18"   "5.546"
##                     "-1.475"  "0"     "2"       "1.356"
##                     "-1.476"  "124"   "140.92"  "11.462"
##                     "-1.476"  "24"    "31.9"    "5.353"
##                     "-1.476"  "0"     "1.83"    "1.24"
##                     "-1.476"  "1"     "4.14"    "2.127"
##                     "-1.477"  "12"    "17.91"   "4"
##                     "-1.477"  "0"     "2.03"    "1.374"
##                     "-1.478"  "0"     "2.01"    "1.36"
##                     "-1.478"  "4"     "8.01"    "2.714"
##                     "-1.478"  "0"     "2.16"    "1.461"
##                     "-1.478"  "0"     "1.74"    "1.177"
##                     "-1.479"  "2"     "5.12"    "2.11"
##                     "-1.479"  "2"     "5.73"    "2.522"
##                     "-1.479"  "0"     "2.22"    "1.501"
##                     "-1.48"   "1"     "3.74"    "1.851"
##                     "-1.48"   "1"     "3.57"    "1.736"
##                     "-1.48"   "1"     "3.76"    "1.865"
##                     "-1.48"   "0"     "1.85"    "1.25"
##                     "-1.481"  "19"    "24.83"   "3.937"
##                     "-1.481"  "0"     "2.1"     "1.418"
##                     "-1.481"  "0"     "2.15"    "1.452"
##                     "-1.481"  "50"    "60.04"   "6.779"
##                     "-1.483"  "3"     "6.68"    "2.482"
##                     "-1.483"  "3"     "7.22"    "2.845"
##                     "-1.483"  "0"     "2.14"    "1.443"
##                     "-1.483"  "0"     "2.14"    "1.443"
##                     "-1.484"  "1"     "4.35"    "2.258"
##                     "-1.485"  "24"    "32.22"   "5.537"
##                     "-1.485"  "0"     "1.95"    "1.313"
##                     "-1.486"  "283"   "318.41"  "23.827"
##                     "-1.487"  "0"     "2.01"    "1.352"
##                     "-1.488"  "0"     "2.15"    "1.445"
```

```
##                    "-1.488"  "1"    "3.55"    "1.714"
##                    "-1.488"  "0"    "2.15"    "1.445"
##                    "-1.488"  "0"    "1.93"    "1.297"
##                    "-1.489"  "1"    "4.08"    "2.068"
##                    "-1.489"  "7"    "12.42"   "3.641"
##                    "-1.489"  "2"    "5.23"    "2.169"
##                    "-1.489"  "0"    "2.04"    "1.37"
##                    "-1.489"  "0"    "2.28"    "1.531"
##                    "-1.49"   "0"    "2.02"    "1.356"
##                    "-1.49"   "1"    "4.07"    "2.061"
##                    "-1.49"   "1"    "4.07"    "2.061"
##                    "-1.491"  "0"    "1.94"    "1.301"
##                    "-1.491"  "1"    "3.62"    "1.757"
##                    "-1.492"  "0"    "2.44"    "1.635"
##                    "-1.492"  "0"    "2"       "1.341"
##                    "-1.493"  "65"   "78.37"   "8.954"
##                    "-1.493"  "0"    "2.66"    "1.782"
##                    "-1.494"  "0"    "2.21"    "1.479"
##                    "-1.494"  "0"    "2.21"    "1.479"
##                    "-1.494"  "1"    "3.98"    "1.995"
##                    "-1.494"  "0"    "2.21"    "1.479"
##                    "-1.494"  "0"    "2.21"    "1.479"
##                    "-1.495"  "0"    "1.92"    "1.285"
##                    "-1.496"  "0"    "2.06"    "1.377"
##                    "-1.496"  "0"    "2.06"    "1.377"
##                    "-1.497"  "1"    "4.19"    "2.131"
##                    "-1.497"  "0"    "2.04"    "1.363"
##                    "-1.498"  "51"   "61.52"   "7.024"
##                    "-1.498"  "1"    "3.82"    "1.882"
##                    "-1.498"  "1"    "3.98"    "1.99"
##                    "-1.498"  "16"   "22.87"   "4.585"
##                    "-1.499"  "0"    "1.62"    "1.08"
##                    "-1.499"  "213"  "236.69"  "15.805"
##                    "-1.499"  "0"    "1.97"    "1.314"
##                    "-1.5"    "5"    "9.23"    "2.821"
##                    "-1.501"  "0"    "2.18"    "1.452"
##                    "-1.501"  "0"    "2.13"    "1.419"
##                    "-1.502"  "0"    "2.33"    "1.551"
##                    "-1.504"  "0"    "2.44"    "1.623"
##                    "-1.504"  "2"    "5.65"    "2.426"
##                    "-1.504"  "2"    "5.65"    "2.426"
##                    "-1.505"  "3"    "6.64"    "2.418"
##                    "-1.505"  "0"    "1.82"    "1.209"
##                    "-1.505"  "56"   "68.47"   "8.285"
##                    "-1.505"  "1"    "4.05"    "2.027"
##                    "-1.505"  "0"    "1.82"    "1.209"
##                    "-1.505"  "0"    "1.96"    "1.302"
##                    "-1.505"  "0"    "1.88"    "1.249"
##                    "-1.505"  "0"    "1.82"    "1.209"
##                    "-1.506"  "7"    "12.12"   "3.4"
##                    "-1.507"  "1"    "4.31"    "2.196"
##                    "-1.507"  "0"    "2.02"    "1.341"
##                    "-1.507"  "1"    "4.17"    "2.104"
##                    "-1.509"  "22"   "29.69"   "5.094"
```

```
##                     "-1.509"   "0"     "1.94"     "1.286"
##                     "-1.509"   "0"     "2"        "1.326"
##                     "-1.509"   "8"     "14.06"    "4.017"
##                     "-1.51"    "0"     "2.46"     "1.629"
##                     "-1.51"    "24"    "32.79"    "5.819"
##                     "-1.51"    "2"     "4.93"     "1.94"
##                     "-1.511"   "0"     "2.38"     "1.575"
##                     "-1.511"   "6"     "10.28"    "2.832"
##                     "-1.511"   "0"     "2.39"     "1.582"
##                     "-1.512"   "0"     "2.36"     "1.56"
##                     "-1.512"   "0"     "2.36"     "1.56"
##                     "-1.512"   "22"    "29.59"    "5.021"
##                     "-1.512"   "2"     "5.69"     "2.44"
##                     "-1.512"   "0"     "2.36"     "1.56"
##                     "-1.512"   "0"     "2.36"     "1.56"
##                     "-1.512"   "0"     "2.36"     "1.56"
##                     "-1.513"   "2"     "6.28"     "2.829"
##                     "-1.513"   "0"     "2.53"     "1.672"
##                     "-1.513"   "13"    "20.3"     "4.825"
##                     "-1.514"   "0"     "2.83"     "1.87"
##                     "-1.514"   "0"     "1.69"     "1.116"
##                     "-1.515"   "0"     "2.28"     "1.505"
##                     "-1.515"   "0"     "2.78"     "1.834"
##                     "-1.515"   "1"     "3.68"     "1.769"
##                     "-1.515"   "0"     "2.02"     "1.333"
##                     "-1.516"   "0"     "2.4"      "1.583"
##                     "-1.516"   "10"    "15.88"    "3.878"
##                     "-1.517"   "3"     "6.52"     "2.32"
##                     "-1.518"   "2"     "5.39"     "2.233"
##                     "-1.519"   "0"     "2.17"     "1.429"
##                     "-1.52"    "0"     "2.22"     "1.46"
##                     "-1.52"    "0"     "2.22"     "1.46"
##                     "-1.521"   "0"     "1.91"     "1.256"
##                     "-1.521"   "1"     "4.2"      "2.103"
##                     "-1.521"   "0"     "2.25"     "1.48"
##                     "-1.521"   "1"     "3.57"     "1.689"
##                     "-1.523"   "0"     "1.76"     "1.156"
##                     "-1.523"   "15"    "21.1"     "4.006"
##                     "-1.523"   "0"     "2.18"     "1.431"
##                     "-1.523"   "0"     "1.92"     "1.261"
##                     "-1.523"   "4"     "8.81"     "3.158"
##                     "-1.524"   "0"     "2.13"     "1.397"
##                     "-1.524"   "0"     "1.96"     "1.286"
##                     "-1.524"   "0"     "1.88"     "1.233"
##                     "-1.525"   "19"    "27.2"     "5.379"
##                     "-1.525"   "0"     "2.65"     "1.737"
##                     "-1.525"   "1"     "3.68"     "1.757"
##                     "-1.526"   "150"   "168.34"   "12.022"
##                     "-1.527"   "3"     "7.41"     "2.889"
##                     "-1.527"   "1"     "3.46"     "1.611"
##                     "-1.527"   "1"     "3.81"     "1.841"
##                     "-1.527"   "3"     "7.09"     "2.678"
##                     "-1.529"   "2"     "5.48"     "2.276"
##                     "-1.529"   "2"     "5.48"     "2.276"
```

```
##                     "-1.529"  "2"    "5.72"    "2.433"
##                     "-1.529"  "2"    "5.48"    "2.276"
##                     "-1.53"   "1"    "3.86"    "1.87"
##                     "-1.53"   "0"    "2.54"    "1.66"
##                     "-1.531"  "6"    "11"      "3.266"
##                     "-1.531"  "241"  "264.59"  "15.408"
##                     "-1.531"  "2"    "5.45"    "2.254"
##                     "-1.531"  "2"    "5.45"    "2.254"
##                     "-1.531"  "6"    "10.79"   "3.128"
##                     "-1.532"  "305"  "339.51"  "22.521"
##                     "-1.532"  "3"    "6.71"    "2.422"
##                     "-1.532"  "0"    "2.09"    "1.364"
##                     "-1.532"  "5"    "9.1"     "2.676"
##                     "-1.533"  "1"    "3.95"    "1.925"
##                     "-1.533"  "0"    "2.63"    "1.715"
##                     "-1.533"  "1"    "3.7"     "1.761"
##                     "-1.534"  "0"    "3.59"    "2.34"
##                     "-1.534"  "130"  "147.73"  "11.558"
##                     "-1.535"  "0"    "2.52"    "1.642"
##                     "-1.535"  "1"    "4.17"    "2.065"
##                     "-1.537"  "58"   "69.66"   "7.585"
##                     "-1.537"  "1"    "4.32"    "2.16"
##                     "-1.537"  "0"    "2.87"    "1.868"
##                     "-1.538"  "2"    "5.56"    "2.315"
##                     "-1.538"  "0"    "1.83"    "1.19"
##                     "-1.539"  "0"    "2.97"    "1.93"
##                     "-1.539"  "0"    "2.46"    "1.598"
##                     "-1.539"  "0"    "2.97"    "1.93"
##                     "-1.54"   "0"    "2.2"     "1.428"
##                     "-1.54"   "50"   "62.7"    "8.247"
##                     "-1.54"   "5"    "9.51"    "2.928"
##                     "-1.54"   "17"   "24.32"   "4.752"
##                     "-1.541"  "0"    "2.6"     "1.688"
##                     "-1.541"  "2"    "5.32"    "2.155"
##                     "-1.542"  "0"    "2.17"    "1.407"
##                     "-1.543"  "12"   "18.28"   "4.07"
##                     "-1.543"  "1"    "4.16"    "2.049"
##                     "-1.543"  "0"    "2.32"    "1.503"
##                     "-1.544"  "20"   "27.97"   "5.161"
##                     "-1.544"  "2"    "5.5"     "2.267"
##                     "-1.545"  "0"    "2.16"    "1.398"
##                     "-1.545"  "7"    "11.91"   "3.179"
##                     "-1.545"  "0"    "2.64"    "1.709"
##                     "-1.546"  "80"   "95.37"   "9.939"
##                     "-1.546"  "0"    "2.35"    "1.52"
##                     "-1.546"  "1"    "4.19"    "2.063"
##                     "-1.546"  "3"    "7.36"    "2.82"
##                     "-1.547"  "0"    "1.89"    "1.222"
##                     "-1.547"  "0"    "2.54"    "1.642"
##                     "-1.548"  "0"    "2.88"    "1.86"
##                     "-1.549"  "0"    "2.11"    "1.363"
##                     "-1.549"  "0"    "2.11"    "1.363"
##                     "-1.549"  "0"    "2.11"    "1.363"
##                     "-1.55"   "0"    "2.17"    "1.4"
```

```
##                   "-1.551"  "17"   "24.86"   "5.067"
##                   "-1.552"  "2"    "5.78"    "2.435"
##                   "-1.552"  "1"    "4.28"    "2.113"
##                   "-1.552"  "1"    "4.28"    "2.113"
##                   "-1.552"  "0"    "2.31"    "1.489"
##                   "-1.552"  "0"    "2.24"    "1.443"
##                   "-1.553"  "0"    "2.1"     "1.352"
##                   "-1.553"  "1"    "3.53"    "1.63"
##                   "-1.554"  "1"    "4.4"     "2.188"
##                   "-1.554"  "3"    "6.8"     "2.445"
##                   "-1.554"  "7"    "12.93"   "3.817"
##                   "-1.554"  "0"    "1.87"    "1.203"
##                   "-1.554"  "0"    "2.18"    "1.403"
##                   "-1.554"  "0"    "2.7"     "1.738"
##                   "-1.555"  "18"   "25.33"   "4.714"
##                   "-1.555"  "0"    "2.74"    "1.762"
##                   "-1.556"  "57"   "70.26"   "8.524"
##                   "-1.556"  "0"    "2.94"    "1.89"
##                   "-1.556"  "5"    "10.1"    "3.277"
##                   "-1.556"  "94"   "110.21"  "10.417"
##                   "-1.556"  "0"    "2.38"    "1.529"
##                   "-1.557"  "0"    "2.25"    "1.445"
##                   "-1.557"  "3"    "6.92"    "2.517"
##                   "-1.557"  "0"    "2.01"    "1.291"
##                   "-1.558"  "0"    "3.24"    "2.08"
##                   "-1.559"  "0"    "2.7"     "1.732"
##                   "-1.559"  "0"    "2.7"     "1.732"
##                   "-1.559"  "0"    "2.54"    "1.629"
##                   "-1.56"   "6"    "11.16"   "3.308"
##                   "-1.561"  "11"   "17.32"   "4.05"
##                   "-1.562"  "0"    "2.1"     "1.345"
##                   "-1.562"  "0"    "2.1"     "1.345"
##                   "-1.562"  "4"    "9"       "3.2"
##                   "-1.564"  "0"    "2.5"     "1.599"
##                   "-1.564"  "9"    "15.2"    "3.964"
##                   "-1.564"  "0"    "2.49"    "1.592"
##                   "-1.564"  "0"    "2.49"    "1.592"
##                   "-1.564"  "2"    "6.08"    "2.608"
##                   "-1.566"  "0"    "2.57"    "1.641"
##                   "-1.566"  "29"   "37.64"   "5.519"
##                   "-1.566"  "0"    "2.31"    "1.475"
##                   "-1.566"  "27"   "35.83"   "5.639"
##                   "-1.566"  "0"    "2.56"    "1.635"
##                   "-1.567"  "0"    "2.41"    "1.538"
##                   "-1.568"  "1"    "4.31"    "2.112"
##                   "-1.569"  "5"    "10.32"   "3.39"
##                   "-1.569"  "0"    "2.85"    "1.817"
##                   "-1.569"  "0"    "2.73"    "1.74"
##                   "-1.57"   "9"    "14.81"   "3.7"
##                   "-1.57"   "0"    "2.23"    "1.42"
##                   "-1.571"  "3"    "7.02"    "2.558"
##                   "-1.571"  "3"    "7.54"    "2.89"
##                   "-1.571"  "1"    "3.84"    "1.808"
##                   "-1.573"  "0"    "2.42"    "1.539"
```

```
##                    "-1.573"  "0"     "2.22"   "1.411"
##                    "-1.574"  "0"     "2.35"   "1.493"
##                    "-1.575"  "14"    "21.86"  "4.991"
##                    "-1.575"  "3"     "6.93"   "2.495"
##                    "-1.576"  "5"     "9.79"   "3.039"
##                    "-1.576"  "9"     "14.58"  "3.54"
##                    "-1.576"  "1"     "3.74"   "1.739"
##                    "-1.576"  "1"     "4.05"   "1.935"
##                    "-1.576"  "1"     "4.71"   "2.354"
##                    "-1.576"  "0"     "3.22"   "2.043"
##                    "-1.577"  "5"     "9.44"   "2.815"
##                    "-1.577"  "0"     "2.07"   "1.312"
##                    "-1.577"  "0"     "2.33"   "1.477"
##                    "-1.577"  "1"     "4.62"   "2.295"
##                    "-1.577"  "0"     "2.33"   "1.477"
##                    "-1.578"  "0"     "3.03"   "1.92"
##                    "-1.578"  "3"     "6.41"   "2.161"
##                    "-1.579"  "4"     "8.77"   "3.021"
##                    "-1.579"  "5"     "10.57"  "3.528"
##                    "-1.58"   "4"     "8.23"   "2.677"
##                    "-1.58"   "0"     "2.41"   "1.525"
##                    "-1.58"   "5"     "8.97"   "2.512"
##                    "-1.58"   "0"     "2.05"   "1.298"
##                    "-1.58"   "0"     "2.05"   "1.298"
##                    "-1.58"   "0"     "2.59"   "1.64"
##                    "-1.583"  "15"    "22.42"  "4.689"
##                    "-1.583"  "0"     "1.96"   "1.238"
##                    "-1.583"  "0"     "2.06"   "1.301"
##                    "-1.584"  "2"     "5.75"   "2.367"
##                    "-1.584"  "0"     "2.91"   "1.837"
##                    "-1.587"  "0"     "2.16"   "1.361"
##                    "-1.587"  "12"    "18.69"  "4.216"
##                    "-1.588"  "3"     "7.56"   "2.872"
##                    "-1.589"  "0"     "2.02"   "1.271"
##                    "-1.589"  "5"     "9.42"   "2.782"
##                    "-1.59"   "2"     "5.72"   "2.34"
##                    "-1.591"  "0"     "2.15"   "1.351"
##                    "-1.591"  "1"     "4.34"   "2.1"
##                    "-1.591"  "0"     "2.9"    "1.823"
##                    "-1.591"  "0"     "2.15"   "1.351"
##                    "-1.591"  "0"     "2.79"   "1.754"
##                    "-1.591"  "1"     "3.92"   "1.835"
##                    "-1.591"  "0"     "2.79"   "1.754"
##                    "-1.592"  "1"     "4.25"   "2.042"
##                    "-1.593"  "6"     "10.34"  "2.724"
##                    "-1.593"  "0"     "2.42"   "1.519"
##                    "-1.593"  "1"     "4.32"   "2.084"
##                    "-1.593"  "0"     "2.06"   "1.293"
##                    "-1.594"  "0"     "2.36"   "1.481"
##                    "-1.594"  "1"     "3.68"   "1.681"
##                    "-1.594"  "1"     "3.68"   "1.681"
##                    "-1.594"  "1"     "3.68"   "1.681"
##                    "-1.596"  "2"     "5.97"   "2.488"
##                    "-1.596"  "0"     "3.12"   "1.955"
```

```
##                  "-1.596"  "67"   "81.37"   "9.006"
##                  "-1.596"  "8"    "13.67"   "3.554"
##                  "-1.596"  "0"    "3.12"    "1.955"
##                  "-1.596"  "1"    "4.58"    "2.244"
##                  "-1.596"  "0"    "2.69"    "1.686"
##                  "-1.596"  "0"    "2.35"    "1.473"
##                  "-1.597"  "7"    "12.46"   "3.418"
##                  "-1.597"  "0"    "1.76"    "1.102"
##                  "-1.597"  "0"    "2.34"    "1.465"
##                  "-1.597"  "1"    "3.57"    "1.61"
##                  "-1.598"  "0"    "2.74"    "1.715"
##                  "-1.598"  "0"    "2.74"    "1.715"
##                  "-1.598"  "0"    "2.74"    "1.715"
##                  "-1.598"  "0"    "2.74"    "1.715"
##                  "-1.598"  "0"    "2.1"     "1.314"
##                  "-1.599"  "0"    "2.02"    "1.263"
##                  "-1.6"    "1"    "4.03"    "1.893"
##                  "-1.6"    "0"    "2.08"    "1.3"
##                  "-1.601"  "0"    "2.13"    "1.331"
##                  "-1.601"  "0"    "2.79"    "1.742"
##                  "-1.601"  "1"    "3.76"    "1.724"
##                  "-1.601"  "0"    "2.13"    "1.331"
##                  "-1.601"  "5"    "10.15"   "3.217"
##                  "-1.602"  "1"    "4.58"    "2.235"
##                  "-1.603"  "0"    "2.85"    "1.777"
##                  "-1.603"  "0"    "2.49"    "1.554"
##                  "-1.603"  "0"    "2.85"    "1.777"
##                  "-1.603"  "0"    "2.85"    "1.777"
##                  "-1.604"  "0"    "2.59"    "1.615"
##                  "-1.604"  "132"  "153.56"  "13.443"
##                  "-1.605"  "2"    "6.07"    "2.536"
##                  "-1.605"  "0"    "2.45"    "1.527"
##                  "-1.606"  "1"    "4.56"    "2.217"
##                  "-1.606"  "0"    "2.88"    "1.794"
##                  "-1.607"  "2"    "5.61"    "2.247"
##                  "-1.608"  "2"    "5.78"    "2.351"
##                  "-1.608"  "0"    "2.42"    "1.505"
##                  "-1.609"  "3"    "7.15"    "2.58"
##                  "-1.609"  "0"    "2.36"    "1.467"
##                  "-1.609"  "0"    "2.36"    "1.467"
##                  "-1.61"   "16"   "23.9"    "4.908"
##                  "-1.611"  "2"    "5.69"    "2.29"
##                  "-1.611"  "0"    "2.9"     "1.801"
##                  "-1.612"  "1"    "4.31"    "2.053"
##                  "-1.612"  "0"    "2.03"    "1.259"
##                  "-1.612"  "0"    "3.23"    "2.004"
##                  "-1.612"  "2"    "5.94"    "2.445"
##                  "-1.613"  "0"    "2.44"    "1.513"
##                  "-1.613"  "1"    "4.07"    "1.903"
##                  "-1.613"  "2"    "6.29"    "2.66"
##                  "-1.613"  "1"    "3.93"    "1.816"
##                  "-1.615"  "1"    "4.26"    "2.018"
##                  "-1.615"  "5"    "10.21"   "3.226"
##                  "-1.615"  "1"    "3.83"    "1.753"
```

```
##                    "-1.615"   "1"     "3.83"     "1.753"
##                    "-1.615"   "1"     "3.83"     "1.753"
##                    "-1.615"   "1"     "3.83"     "1.753"
##                    "-1.615"   "1"     "3.83"     "1.753"
##                    "-1.616"   "1"     "4.65"     "2.258"
##                    "-1.617"   "13"    "19.58"    "4.068"
##                    "-1.617"   "4"     "9.97"     "3.691"
##                    "-1.617"   "6"     "11.45"    "3.371"
##                    "-1.619"   "0"     "2.23"     "1.377"
##                    "-1.619"   "0"     "2.13"     "1.315"
##                    "-1.619"   "0"     "2.63"     "1.625"
##                    "-1.62"    "7"     "12.32"    "3.284"
##                    "-1.62"    "60"    "72.79"    "7.894"
##                    "-1.62"    "4"     "8.6"      "2.839"
##                    "-1.62"    "1"     "3.65"     "1.635"
##                    "-1.622"   "27"    "35.81"    "5.432"
##                    "-1.623"   "372"   "410.36"   "23.633"
##                    "-1.623"   "0"     "2.16"     "1.331"
##                    "-1.623"   "0"     "2.79"     "1.719"
##                    "-1.624"   "13"    "19.92"    "4.261"
##                    "-1.624"   "0"     "2.47"     "1.521"
##                    "-1.624"   "5"     "10.56"    "3.424"
##                    "-1.625"   "3"     "7.18"     "2.572"
##                    "-1.626"   "3"     "7.28"     "2.633"
##                    "-1.626"   "0"     "2.39"     "1.47"
##                    "-1.628"   "0"     "2.31"     "1.419"
##                    "-1.629"   "1"     "4.2"      "1.964"
##                    "-1.63"    "16"    "23.8"     "4.784"
##                    "-1.63"    "17"    "24.52"    "4.613"
##                    "-1.63"    "11"    "17.11"    "3.749"
##                    "-1.631"   "0"     "3.66"     "2.244"
##                    "-1.631"   "0"     "2.9"      "1.778"
##                    "-1.631"   "1"     "4.17"     "1.944"
##                    "-1.631"   "5"     "10.27"    "3.231"
##                    "-1.631"   "0"     "2.92"     "1.79"
##                    "-1.631"   "5"     "10.27"    "3.231"
##                    "-1.632"   "0"     "2.4"      "1.47"
##                    "-1.632"   "0"     "2.47"     "1.514"
##                    "-1.632"   "0"     "2.47"     "1.514"
##                    "-1.632"   "155"   "178.22"   "14.23"
##                    "-1.632"   "0"     "2.46"     "1.507"
##                    "-1.632"   "0"     "2.47"     "1.514"
##                    "-1.632"   "0"     "2.47"     "1.514"
##                    "-1.632"   "0"     "2.47"     "1.514"
##                    "-1.633"   "1"     "5.33"     "2.652"
##                    "-1.634"   "3"     "7.27"     "2.613"
##                    "-1.634"   "0"     "3.05"     "1.866"
##                    "-1.635"   "0"     "2.26"     "1.383"
##                    "-1.635"   "0"     "2.53"     "1.547"
##                    "-1.636"   "0"     "2.31"     "1.412"
##                    "-1.636"   "3"     "7.04"     "2.47"
##                    "-1.636"   "14"    "21.94"    "4.853"
##                    "-1.636"   "0"     "2.92"     "1.785"
##                    "-1.636"   "1"     "4.01"     "1.839"
```

```
##                    "-1.636"  "9"    "14.79"   "3.54"
##                    "-1.638"  "2"    "6.86"    "2.968"
##                    "-1.638"  "40"   "50.38"   "6.339"
##                    "-1.638"  "10"   "15.83"   "3.559"
##                    "-1.638"  "87"   "103.69"  "10.187"
##                    "-1.638"  "23"   "31.6"    "5.251"
##                    "-1.64"   "0"    "2.05"    "1.25"
##                    "-1.64"   "0"    "2.05"    "1.25"
##                    "-1.64"   "0"    "2.05"    "1.25"
##                    "-1.64"   "0"    "3.17"    "1.934"
##                    "-1.64"   "2"    "6.3"     "2.623"
##                    "-1.641"  "0"    "2.32"    "1.413"
##                    "-1.641"  "6"    "10.6"    "2.803"
##                    "-1.641"  "1"    "4.21"    "1.956"
##                    "-1.641"  "14"   "21.72"   "4.703"
##                    "-1.642"  "9"    "15.92"   "4.213"
##                    "-1.643"  "2"    "5.56"    "2.166"
##                    "-1.643"  "0"    "2.6"     "1.583"
##                    "-1.645"  "0"    "2.21"    "1.343"
##                    "-1.645"  "0"    "2.19"    "1.331"
##                    "-1.646"  "9"    "15.06"   "3.681"
##                    "-1.646"  "0"    "3.04"    "1.847"
##                    "-1.646"  "0"    "2.85"    "1.731"
##                    "-1.647"  "23"   "30.71"   "4.68"
##                    "-1.65"   "8"    "14.96"   "4.219"
##                    "-1.65"   "0"    "2.7"     "1.636"
##                    "-1.651"  "7"    "12.42"   "3.282"
##                    "-1.651"  "0"    "2.64"    "1.599"
##                    "-1.653"  "0"    "2.66"    "1.609"
##                    "-1.653"  "1"    "4.76"    "2.275"
##                    "-1.653"  "0"    "2.66"    "1.609"
##                    "-1.653"  "0"    "2.66"    "1.609"
##                    "-1.653"  "0"    "2.66"    "1.609"
##                    "-1.653"  "0"    "2.66"    "1.609"
##                    "-1.655"  "0"    "3.46"    "2.091"
##                    "-1.656"  "0"    "3.32"    "2.004"
##                    "-1.656"  "0"    "2.59"    "1.564"
##                    "-1.656"  "0"    "3.67"    "2.216"
##                    "-1.657"  "12"   "18.44"   "3.886"
##                    "-1.657"  "0"    "2.63"    "1.587"
##                    "-1.657"  "11"   "17.28"   "3.79"
##                    "-1.657"  "0"    "2.63"    "1.587"
##                    "-1.657"  "17"   "25.77"   "5.293"
##                    "-1.657"  "8"    "13.68"   "3.429"
##                    "-1.657"  "0"    "2.85"    "1.72"
##                    "-1.657"  "23"   "31.98"   "5.418"
##                    "-1.659"  "0"    "2.66"    "1.603"
##                    "-1.659"  "0"    "2.49"    "1.501"
##                    "-1.66"   "1"    "3.73"    "1.644"
##                    "-1.66"   "1"    "4.2"     "1.928"
##                    "-1.66"   "0"    "2.42"    "1.458"
##                    "-1.66"   "2"    "5.48"    "2.096"
##                    "-1.661"  "0"    "3.49"    "2.101"
##                    "-1.662"  "0"    "3.82"    "2.298"
```

```
##                     "-1.663"  "6"    "11.07"   "3.049"
##                     "-1.664"  "0"    "2.53"    "1.521"
##                     "-1.664"  "0"    "2.76"    "1.658"
##                     "-1.665"  "0"    "2.65"    "1.591"
##                     "-1.666"  "7"    "13.14"   "3.685"
##                     "-1.667"  "0"    "2.87"    "1.721"
##                     "-1.667"  "0"    "2.68"    "1.607"
##                     "-1.668"  "39"   "50.52"   "6.906"
##                     "-1.67"   "0"    "2.62"    "1.569"
##                     "-1.671"  "0"    "3.41"    "2.04"
##                     "-1.671"  "114"  "132.37"  "10.993"
##                     "-1.671"  "0"    "2.54"    "1.52"
##                     "-1.671"  "1"    "4.04"    "1.82"
##                     "-1.671"  "0"    "2.63"    "1.574"
##                     "-1.671"  "21"   "30.13"   "5.464"
##                     "-1.671"  "2"    "5.83"    "2.292"
##                     "-1.672"  "2"    "5.64"    "2.177"
##                     "-1.672"  "0"    "2.77"    "1.657"
##                     "-1.672"  "0"    "2.51"    "1.501"
##                     "-1.673"  "300"  "338.79"  "23.185"
##                     "-1.673"  "1"    "3.87"    "1.715"
##                     "-1.674"  "0"    "2.49"    "1.487"
##                     "-1.676"  "0"    "2.7"     "1.611"
##                     "-1.676"  "0"    "2.42"    "1.444"
##                     "-1.676"  "0"    "2.42"    "1.444"
##                     "-1.676"  "0"    "2.42"    "1.444"
##                     "-1.676"  "0"    "2.95"    "1.76"
##                     "-1.676"  "0"    "2.42"    "1.444"
##                     "-1.678"  "0"    "2.41"    "1.436"
##                     "-1.678"  "0"    "2.55"    "1.52"
##                     "-1.679"  "0"    "2.96"    "1.763"
##                     "-1.679"  "2"    "5.93"    "2.341"
##                     "-1.679"  "1"    "4.52"    "2.096"
##                     "-1.68"   "3"    "6.84"    "2.286"
##                     "-1.68"   "0"    "2.74"    "1.631"
##                     "-1.68"   "58"   "71.66"   "8.129"
##                     "-1.68"   "3"    "7.8"     "2.857"
##                     "-1.68"   "0"    "2.4"     "1.428"
##                     "-1.681"  "1"    "4.65"    "2.171"
##                     "-1.681"  "2"    "6.48"    "2.665"
##                     "-1.682"  "4"    "8.64"    "2.758"
##                     "-1.682"  "1"    "4.36"    "1.998"
##                     "-1.683"  "0"    "2.89"    "1.717"
##                     "-1.683"  "0"    "2.48"    "1.474"
##                     "-1.683"  "3"    "7.59"    "2.727"
##                     "-1.684"  "3"    "6.53"    "2.096"
##                     "-1.685"  "0"    "2.65"    "1.572"
##                     "-1.685"  "1"    "5.17"    "2.474"
##                     "-1.686"  "2"    "5.91"    "2.319"
##                     "-1.686"  "310"  "352.19"  "25.027"
##                     "-1.686"  "4"    "7.72"    "2.207"
##                     "-1.686"  "8"    "15.43"   "4.407"
##                     "-1.687"  "0"    "3.16"    "1.873"
##                     "-1.687"  "43"   "55.03"   "7.13"
```

```
##                     "-1.69"   "2"    "6.21"    "2.492"
##                     "-1.69"   "1"    "5.94"    "2.923"
##                     "-1.691"  "0"    "3.3"     "1.951"
##                     "-1.691"  "3"    "7.46"    "2.638"
##                     "-1.691"  "0"    "3.21"    "1.898"
##                     "-1.691"  "0"    "2.58"    "1.525"
##                     "-1.691"  "0"    "2.58"    "1.525"
##                     "-1.692"  "0"    "3.06"    "1.808"
##                     "-1.693"  "0"    "2.35"    "1.388"
##                     "-1.694"  "37"   "48.71"   "6.913"
##                     "-1.696"  "0"    "2.37"    "1.397"
##                     "-1.696"  "3"    "7.37"    "2.577"
##                     "-1.696"  "6"    "11.63"   "3.32"
##                     "-1.696"  "0"    "2.37"    "1.397"
##                     "-1.697"  "11"   "18.08"   "4.172"
##                     "-1.697"  "3"    "7.62"    "2.722"
##                     "-1.698"  "1"    "4.71"    "2.185"
##                     "-1.699"  "0"    "2.93"    "1.725"
##                     "-1.699"  "0"    "2.93"    "1.725"
##                     "-1.699"  "11"   "17.55"   "3.854"
##                     "-1.699"  "0"    "2.93"    "1.725"
##                     "-1.7"    "0"    "2.67"    "1.57"
##                     "-1.7"    "9"    "15.35"   "3.735"
##                     "-1.7"    "1"    "5.19"    "2.465"
##                     "-1.701"  "0"    "2.98"    "1.752"
##                     "-1.701"  "0"    "2.94"    "1.728"
##                     "-1.701"  "0"    "3.02"    "1.775"
##                     "-1.702"  "103"  "124.07"  "12.381"
##                     "-1.702"  "2"    "7.32"    "3.127"
##                     "-1.703"  "0"    "2.41"    "1.415"
##                     "-1.703"  "0"    "2.71"    "1.591"
##                     "-1.703"  "16"   "24.79"   "5.161"
##                     "-1.703"  "0"    "2.51"    "1.474"
##                     "-1.703"  "0"    "2.71"    "1.591"
##                     "-1.703"  "0"    "2.71"    "1.591"
##                     "-1.703"  "0"    "2.71"    "1.591"
##                     "-1.703"  "0"    "2.71"    "1.591"
##                     "-1.704"  "0"    "2.99"    "1.755"
##                     "-1.704"  "0"    "3.23"    "1.896"
##                     "-1.704"  "7"    "12.44"   "3.192"
##                     "-1.705"  "9"    "15.89"   "4.04"
##                     "-1.705"  "1"    "4.42"    "2.006"
##                     "-1.705"  "14"   "21.63"   "4.476"
##                     "-1.706"  "8"    "13.82"   "3.412"
##                     "-1.706"  "0"    "2.58"    "1.512"
##                     "-1.706"  "4"    "9.26"    "3.083"
##                     "-1.707"  "0"    "3.12"    "1.827"
##                     "-1.707"  "0"    "3.02"    "1.769"
##                     "-1.708"  "0"    "3.37"    "1.973"
##                     "-1.708"  "65"   "80.5"    "9.074"
##                     "-1.709"  "6"    "12.22"   "3.639"
##                     "-1.709"  "1"    "4.75"    "2.194"
##                     "-1.709"  "17"   "24.55"   "4.418"
##                     "-1.709"  "0"    "3.11"    "1.82"
```

```
##                      "-1.71"   "0"    "3.08"    "1.802"
##                      "-1.711"  "17"   "25.19"   "4.786"
##                      "-1.711"  "52"   "65.83"   "8.083"
##                      "-1.711"  "2"    "6.63"    "2.707"
##                      "-1.713"  "27"   "37.17"   "5.936"
##                      "-1.713"  "12"   "20.24"   "4.81"
##                      "-1.713"  "0"    "2.63"    "1.535"
##                      "-1.714"  "1"    "5.56"    "2.66"
##                      "-1.715"  "4"    "9.54"    "3.23"
##                      "-1.715"  "22"   "31.65"   "5.625"
##                      "-1.715"  "0"    "3.03"    "1.766"
##                      "-1.716"  "0"    "3.66"    "2.133"
##                      "-1.716"  "0"    "2.7"     "1.573"
##                      "-1.717"  "4"    "9.28"    "3.075"
##                      "-1.717"  "0"    "2.36"    "1.375"
##                      "-1.718"  "0"    "3"       "1.747"
##                      "-1.718"  "3"    "7.38"    "2.55"
##                      "-1.718"  "0"    "2.24"    "1.304"
##                      "-1.72"   "2"    "6.51"    "2.623"
##                      "-1.72"   "0"    "3.28"    "1.907"
##                      "-1.72"   "0"    "2.83"    "1.646"
##                      "-1.722"  "1"    "3.93"    "1.701"
##                      "-1.723"  "5"    "11.42"   "3.726"
##                      "-1.724"  "7"    "12.86"   "3.399"
##                      "-1.724"  "0"    "3.69"    "2.14"
##                      "-1.725"  "0"    "2.72"    "1.577"
##                      "-1.725"  "0"    "2.72"    "1.577"
##                      "-1.725"  "17"   "25.35"   "4.842"
##                      "-1.725"  "0"    "2.72"    "1.577"
##                      "-1.725"  "0"    "2.72"    "1.577"
##                      "-1.726"  "0"    "3.36"    "1.946"
##                      "-1.726"  "0"    "3.39"    "1.964"
##                      "-1.726"  "0"    "2.31"    "1.339"
##                      "-1.727"  "1"    "4.25"    "1.882"
##                      "-1.727"  "1"    "4.13"    "1.813"
##                      "-1.727"  "1"    "4.13"    "1.813"
##                      "-1.728"  "31"   "41.26"   "5.937"
##                      "-1.728"  "1"    "5.74"    "2.744"
##                      "-1.729"  "88"   "105.51"  "10.128"
##                      "-1.729"  "4"    "8.52"    "2.615"
##                      "-1.729"  "0"    "3.18"    "1.839"
##                      "-1.731"  "1"    "3.94"    "1.699"
##                      "-1.731"  "3"    "6.84"    "2.219"
##                      "-1.731"  "9"    "15.92"   "3.997"
##                      "-1.731"  "3"    "6.84"    "2.219"
##                      "-1.731"  "3"    "6.84"    "2.219"
##                      "-1.731"  "3"    "6.84"    "2.219"
##                      "-1.732"  "0"    "2.18"    "1.258"
##                      "-1.732"  "11"   "17.63"   "3.829"
##                      "-1.733"  "0"    "2.73"    "1.575"
##                      "-1.733"  "5"    "9.73"    "2.73"
##                      "-1.733"  "0"    "2.73"    "1.575"
##                      "-1.734"  "0"    "2.93"    "1.689"
##                      "-1.734"  "0"    "2.27"    "1.309"
```

```
##                     "-1.734"  "0"   "2.27"   "1.309"
##                     "-1.736"  "1"   "4.78"   "2.177"
##                     "-1.736"  "0"   "3.64"   "2.096"
##                     "-1.736"  "0"   "3.17"   "1.826"
##                     "-1.736"  "0"   "2.42"   "1.394"
##                     "-1.737"  "4"   "8.44"   "2.556"
##                     "-1.737"  "1"   "5.04"   "2.326"
##                     "-1.737"  "1"   "5.04"   "2.326"
##                     "-1.738"  "1"   "4.68"   "2.117"
##                     "-1.738"  "1"   "4.68"   "2.117"
##                     "-1.738"  "1"   "4.68"   "2.117"
##                     "-1.739"  "3"   "6.95"   "2.271"
##                     "-1.74"   "1"   "4.36"   "1.931"
##                     "-1.74"   "0"   "3.37"   "1.937"
##                     "-1.74"   "6"   "10.91"  "2.822"
##                     "-1.74"   "1"   "4.98"   "2.287"
##                     "-1.741"  "0"   "3.17"   "1.821"
##                     "-1.741"  "0"   "3.35"   "1.925"
##                     "-1.742"  "1"   "4.86"   "2.216"
##                     "-1.742"  "4"   "8.88"   "2.801"
##                     "-1.742"  "3"   "6.86"   "2.216"
##                     "-1.743"  "42"  "54.32"  "7.067"
##                     "-1.743"  "0"   "2.66"   "1.526"
##                     "-1.743"  "0"   "3.1"    "1.778"
##                     "-1.743"  "0"   "2.66"   "1.526"
##                     "-1.743"  "0"   "2.66"   "1.526"
##                     "-1.743"  "0"   "2.66"   "1.526"
##                     "-1.743"  "0"   "2.66"   "1.526"
##                     "-1.743"  "0"   "2.66"   "1.526"
##                     "-1.743"  "0"   "2.66"   "1.526"
##                     "-1.743"  "0"   "2.66"   "1.526"
##                     "-1.743"  "9"   "16.66"  "4.395"
##                     "-1.744"  "3"   "7.61"   "2.643"
##                     "-1.744"  "0"   "2.61"   "1.497"
##                     "-1.744"  "0"   "2.77"   "1.588"
##                     "-1.744"  "0"   "2.67"   "1.531"
##                     "-1.744"  "0"   "2.05"   "1.175"
##                     "-1.744"  "0"   "2.61"   "1.497"
##                     "-1.744"  "0"   "2.61"   "1.497"
##                     "-1.745"  "11"  "17.78"  "3.886"
##                     "-1.745"  "0"   "3.12"   "1.788"
##                     "-1.746"  "1"   "4.47"   "1.987"
##                     "-1.747"  "1"   "5.13"   "2.364"
##                     "-1.748"  "11"  "17.82"  "3.901"
##                     "-1.748"  "7"   "12.89"  "3.369"
##                     "-1.748"  "11"  "18.98"  "4.566"
##                     "-1.749"  "0"   "4.61"   "2.636"
##                     "-1.749"  "31"  "42.13"  "6.362"
##                     "-1.749"  "67"  "81.04"  "8.029"
##                     "-1.75"   "0"   "2.3"    "1.314"
##                     "-1.75"   "0"   "2.81"   "1.606"
##                     "-1.75"   "0"   "2.3"    "1.314"
##                     "-1.75"   "0"   "2.3"    "1.314"
##                     "-1.75"   "0"   "3.27"   "1.869"
```

```
##                      "-1.751"  "0"    "3.21"    "1.833"
##                      "-1.751"  "1"    "4.21"    "1.833"
##                      "-1.751"  "0"    "2.4"     "1.371"
##                      "-1.751"  "1"    "5.35"    "2.484"
##                      "-1.751"  "1"    "4.33"    "1.902"
##                      "-1.751"  "11"   "18.23"   "4.129"
##                      "-1.752"  "0"    "3.56"    "2.032"
##                      "-1.752"  "137"  "160.16"  "13.218"
##                      "-1.752"  "3"    "6.96"    "2.26"
##                      "-1.753"  "0"    "3.04"    "1.734"
##                      "-1.755"  "0"    "2.74"    "1.561"
##                      "-1.755"  "0"    "2.91"    "1.658"
##                      "-1.756"  "0"    "2.94"    "1.675"
##                      "-1.756"  "5"    "10.06"   "2.881"
##                      "-1.756"  "0"    "2.94"    "1.675"
##                      "-1.756"  "1"    "4.48"    "1.982"
##                      "-1.757"  "0"    "4.31"    "2.452"
##                      "-1.757"  "0"    "3.51"    "1.997"
##                      "-1.758"  "3"    "8.27"    "2.998"
##                      "-1.758"  "5"    "9.95"    "2.815"
##                      "-1.759"  "3"    "8.51"    "3.132"
##                      "-1.759"  "1"    "5"       "2.274"
##                      "-1.759"  "25"   "34.35"   "5.315"
##                      "-1.76"   "0"    "2.7"     "1.534"
##                      "-1.76"   "0"    "2.93"    "1.665"
##                      "-1.761"  "52"   "66.42"   "8.19"
##                      "-1.761"  "0"    "3.26"    "1.851"
##                      "-1.762"  "0"    "3.51"    "1.992"
##                      "-1.762"  "3"    "7.82"    "2.735"
##                      "-1.762"  "13"   "20.73"   "4.387"
##                      "-1.762"  "13"   "21.59"   "4.876"
##                      "-1.762"  "0"    "3.05"    "1.731"
##                      "-1.763"  "0"    "2.85"    "1.617"
##                      "-1.764"  "0"    "3.37"    "1.91"
##                      "-1.764"  "0"    "2.95"    "1.672"
##                      "-1.765"  "0"    "3.06"    "1.734"
##                      "-1.766"  "6"    "10.71"   "2.668"
##                      "-1.766"  "0"    "3.61"    "2.044"
##                      "-1.767"  "0"    "2.62"    "1.482"
##                      "-1.767"  "0"    "3.53"    "1.997"
##                      "-1.767"  "0"    "2.69"    "1.522"
##                      "-1.768"  "2"    "5.69"    "2.087"
##                      "-1.769"  "0"    "3.09"    "1.747"
##                      "-1.769"  "0"    "3.28"    "1.854"
##                      "-1.769"  "15"   "24.32"   "5.268"
##                      "-1.77"   "0"    "3.23"    "1.825"
##                      "-1.77"   "0"    "4.36"    "2.464"
##                      "-1.771"  "0"    "3.04"    "1.717"
##                      "-1.772"  "0"    "4.07"    "2.297"
##                      "-1.772"  "0"    "3.18"    "1.794"
##                      "-1.773"  "54"   "68.33"   "8.082"
##                      "-1.773"  "0"    "2.77"    "1.563"
##                      "-1.773"  "8"    "13.91"   "3.334"
##                      "-1.774"  "7"    "12.76"   "3.248"
```

```
##                    "-1.775"  "0"    "3.91"    "2.202"
##                    "-1.775"  "0"    "2.64"    "1.487"
##                    "-1.777"  "1"    "5.59"    "2.582"
##                    "-1.777"  "6"    "12.38"   "3.589"
##                    "-1.778"  "0"    "3.95"    "2.222"
##                    "-1.778"  "3"    "7.74"    "2.665"
##                    "-1.779"  "1"    "5.54"    "2.552"
##                    "-1.78"   "0"    "2.96"    "1.663"
##                    "-1.781"  "0"    "2.99"    "1.679"
##                    "-1.781"  "25"   "34.48"   "5.323"
##                    "-1.782"  "29"   "38.76"   "5.476"
##                    "-1.782"  "0"    "3.6"     "2.02"
##                    "-1.782"  "0"    "3.32"    "1.863"
##                    "-1.783"  "0"    "3.18"    "1.783"
##                    "-1.783"  "5"    "10.93"   "3.325"
##                    "-1.783"  "0"    "2.67"    "1.498"
##                    "-1.783"  "2"    "6.25"    "2.384"
##                    "-1.784"  "4"    "9.1"     "2.859"
##                    "-1.785"  "1"    "4.92"    "2.196"
##                    "-1.785"  "1"    "4.17"    "1.776"
##                    "-1.785"  "1"    "5.08"    "2.286"
##                    "-1.785"  "0"    "3.24"    "1.815"
##                    "-1.786"  "0"    "3.27"    "1.83"
##                    "-1.786"  "25"   "36.05"   "6.188"
##                    "-1.787"  "0"    "2.58"    "1.444"
##                    "-1.787"  "0"    "2.58"    "1.444"
##                    "-1.788"  "0"    "2.47"    "1.381"
##                    "-1.788"  "0"    "3.39"    "1.896"
##                    "-1.788"  "0"    "3.39"    "1.896"
##                    "-1.788"  "0"    "2.47"    "1.381"
##                    "-1.789"  "9"    "15.35"   "3.549"
##                    "-1.789"  "1"    "4.92"    "2.191"
##                    "-1.79"   "0"    "3.73"    "2.083"
##                    "-1.791"  "30"   "40.64"   "5.94"
##                    "-1.791"  "0"    "3.28"    "1.832"
##                    "-1.791"  "1"    "4.86"    "2.156"
##                    "-1.791"  "3"    "7.04"    "2.256"
##                    "-1.792"  "0"    "2.81"    "1.568"
##                    "-1.794"  "6"    "12.1"    "3.401"
##                    "-1.795"  "64"   "79.33"   "8.539"
##                    "-1.795"  "0"    "2.97"    "1.654"
##                    "-1.795"  "11"   "18.72"   "4.302"
##                    "-1.795"  "11"   "18.72"   "4.302"
##                    "-1.796"  "0"    "4.07"    "2.266"
##                    "-1.797"  "5"    "11.27"   "3.49"
##                    "-1.797"  "0"    "3.87"    "2.154"
##                    "-1.797"  "0"    "3.17"    "1.764"
##                    "-1.797"  "4"    "9.66"    "3.15"
##                    "-1.797"  "2"    "6.81"    "2.677"
##                    "-1.798"  "1"    "4.5"     "1.946"
##                    "-1.798"  "1"    "4.8"     "2.113"
##                    "-1.798"  "5"    "11.24"   "3.47"
##                    "-1.8"    "0"    "3.01"    "1.673"
##                    "-1.8"    "0"    "3.13"    "1.739"
```

```
##                        "-1.8"    "0"     "3.9"     "2.167"
##                        "-1.801"  "0"     "3.18"    "1.766"
##                        "-1.801"  "0"     "3.18"    "1.766"
##                        "-1.802"  "313"   "355.88"  "23.795"
##                        "-1.803"  "0"     "2.45"    "1.359"
##                        "-1.804"  "0"     "3.14"    "1.741"
##                        "-1.804"  "0"     "3.37"    "1.868"
##                        "-1.805"  "0"     "3.36"    "1.861"
##                        "-1.805"  "5"     "12.03"   "3.894"
##                        "-1.805"  "0"     "2.85"    "1.579"
##                        "-1.805"  "2"     "6.68"    "2.593"
##                        "-1.805"  "0"     "2.85"    "1.579"
##                        "-1.805"  "0"     "2.85"    "1.579"
##                        "-1.807"  "3"     "7.77"    "2.639"
##                        "-1.807"  "0"     "3.8"     "2.103"
##                        "-1.808"  "0"     "3.1"     "1.714"
##                        "-1.808"  "1"     "5.05"    "2.24"
##                        "-1.81"   "1"     "4.75"    "2.071"
##                        "-1.81"   "29"    "39.71"   "5.916"
##                        "-1.811"  "0"     "3.29"    "1.816"
##                        "-1.811"  "2"     "6.75"    "2.622"
##                        "-1.811"  "1"     "4.29"    "1.816"
##                        "-1.812"  "4"     "9.58"    "3.079"
##                        "-1.812"  "0"     "2.49"    "1.374"
##                        "-1.813"  "0"     "3.24"    "1.787"
##                        "-1.813"  "1"     "4.64"    "2.008"
##                        "-1.814"  "0"     "3.27"    "1.803"
##                        "-1.815"  "0"     "2.3"     "1.267"
##                        "-1.815"  "0"     "3.02"    "1.664"
##                        "-1.816"  "4"     "9.37"    "2.956"
##                        "-1.816"  "75"    "90.95"   "8.783"
##                        "-1.816"  "3"     "8.3"     "2.918"
##                        "-1.816"  "1"     "5.49"    "2.472"
##                        "-1.816"  "1"     "5.49"    "2.472"
##                        "-1.816"  "1"     "5.49"    "2.472"
##                        "-1.817"  "9"     "16.26"   "3.997"
##                        "-1.817"  "0"     "2.83"    "1.557"
##                        "-1.817"  "3"     "7.52"    "2.488"
##                        "-1.818"  "0"     "3.03"    "1.666"
##                        "-1.819"  "13"    "20.09"   "3.898"
##                        "-1.819"  "0"     "3.01"    "1.654"
##                        "-1.82"   "122"   "144.17"  "12.18"
##                        "-1.82"   "6"     "12.31"   "3.466"
##                        "-1.82"   "0"     "2.6"     "1.428"
##                        "-1.82"   "17"    "26.31"   "5.116"
##                        "-1.821"  "1"     "4.91"    "2.147"
##                        "-1.821"  "3"     "8.25"    "2.883"
##                        "-1.822"  "0"     "2.49"    "1.367"
##                        "-1.822"  "0"     "2.81"    "1.542"
##                        "-1.823"  "92"    "110.93"  "10.384"
##                        "-1.824"  "105"   "124.98"  "10.954"
##                        "-1.824"  "3"     "7.95"    "2.713"
##                        "-1.824"  "8"     "14.63"   "3.634"
##                        "-1.824"  "0"     "3.33"    "1.826"
```

```
##                      "-1.824"   "0"    "3.18"    "1.743"
##                      "-1.825"   "0"    "3.27"    "1.791"
##                      "-1.825"   "2"    "6.67"    "2.559"
##                      "-1.825"   "2"    "6.67"    "2.559"
##                      "-1.825"   "5"    "10.11"   "2.799"
##                      "-1.827"   "0"    "3.35"    "1.833"
##                      "-1.827"   "4"    "9.66"    "3.098"
##                      "-1.827"   "2"    "6.82"    "2.638"
##                      "-1.828"   "0"    "3.46"    "1.893"
##                      "-1.828"   "0"    "3.19"    "1.745"
##                      "-1.829"   "15"   "23.88"   "4.856"
##                      "-1.829"   "7"    "12.29"   "2.893"
##                      "-1.829"   "16"   "25"      "4.92"
##                      "-1.83"    "36"   "48.27"   "6.706"
##                      "-1.83"    "2"    "7.28"    "2.885"
##                      "-1.83"    "19"   "29.03"   "5.482"
##                      "-1.83"    "4"    "8.79"    "2.618"
##                      "-1.83"    "20"   "31.14"   "6.089"
##                      "-1.83"    "0"    "3.21"    "1.754"
##                      "-1.83"    "39"   "52.33"   "7.282"
##                      "-1.831"   "0"    "3.74"    "2.043"
##                      "-1.832"   "0"    "3.15"    "1.72"
##                      "-1.832"   "0"    "3.15"    "1.72"
##                      "-1.832"   "0"    "2.95"    "1.61"
##                      "-1.832"   "3"    "7.29"    "2.341"
##                      "-1.833"   "0"    "2.22"    "1.211"
##                      "-1.833"   "0"    "2.22"    "1.211"
##                      "-1.833"   "0"    "2.22"    "1.211"
##                      "-1.834"   "0"    "3.29"    "1.794"
##                      "-1.834"   "1"    "4.62"    "1.973"
##                      "-1.835"   "8"    "15.36"   "4.011"
##                      "-1.835"   "0"    "3.04"    "1.657"
##                      "-1.835"   "0"    "3.04"    "1.657"
##                      "-1.837"   "1"    "5.74"    "2.581"
##                      "-1.837"   "0"    "2.86"    "1.557"
##                      "-1.838"   "4"    "9.84"    "3.177"
##                      "-1.838"   "0"    "3.3"     "1.795"
##                      "-1.839"   "2"    "7.06"    "2.752"
##                      "-1.84"    "0"    "3.29"    "1.788"
##                      "-1.84"    "0"    "4.33"    "2.353"
##                      "-1.841"   "3"    "8.06"    "2.748"
##                      "-1.841"   "0"    "2.7"     "1.467"
##                      "-1.841"   "75"   "92.49"   "9.498"
##                      "-1.842"   "0"    "2.84"    "1.542"
##                      "-1.842"   "11"   "18.89"   "4.283"
##                      "-1.842"   "19"   "27.51"   "4.62"
##                      "-1.843"   "0"    "3.88"    "2.105"
##                      "-1.843"   "0"    "3.88"    "2.105"
##                      "-1.843"   "2"    "6.22"    "2.29"
##                      "-1.843"   "2"    "6.22"    "2.29"
##                      "-1.843"   "0"    "3.88"    "2.105"
##                      "-1.843"   "0"    "3.88"    "2.105"
##                      "-1.843"   "0"    "3.88"    "2.105"
##                      "-1.843"   "0"    "3.88"    "2.105"
```

```
##                      "-1.845" "39"  "51.62" "6.84"
##                      "-1.846" "0"   "3.75"  "2.032"
##                      "-1.846" "6"   "12.82" "3.694"
##                      "-1.846" "7"   "13.46" "3.5"
##                      "-1.847" "4"   "10.75" "3.655"
##                      "-1.847" "0"   "3.08"  "1.668"
##                      "-1.847" "0"   "3.32"  "1.797"
##                      "-1.848" "9"   "16.95" "4.303"
##                      "-1.849" "8"   "14.34" "3.43"
##                      "-1.849" "8"   "14.34" "3.43"
##                      "-1.849" "8"   "14.34" "3.43"
##                      "-1.85"  "1"   "5.32"  "2.335"
##                      "-1.85"  "0"   "3.11"  "1.681"
##                      "-1.85"  "0"   "2.75"  "1.486"
##                      "-1.85"  "0"   "3.11"  "1.681"
##                      "-1.85"  "0"   "3.11"  "1.681"
##                      "-1.851" "0"   "3.34"  "1.805"
##                      "-1.851" "0"   "2.85"  "1.54"
##                      "-1.851" "0"   "3.34"  "1.805"
##                      "-1.851" "0"   "3.34"  "1.805"
##                      "-1.853" "1"   "5.39"  "2.369"
##                      "-1.854" "57"  "71.94" "8.06"
##                      "-1.856" "9"   "16.5"  "4.041"
##                      "-1.856" "0"   "3.18"  "1.714"
##                      "-1.857" "0"   "3.11"  "1.675"
##                      "-1.858" "5"   "11.71" "3.611"
##                      "-1.858" "0"   "2.72"  "1.464"
##                      "-1.859" "0"   "3.28"  "1.764"
##                      "-1.86"  "0"   "3.43"  "1.844"
##                      "-1.861" "0"   "3.21"  "1.725"
##                      "-1.862" "2"   "6.99"  "2.68"
##                      "-1.862" "0"   "2.3"   "1.235"
##                      "-1.862" "0"   "3.4"   "1.826"
##                      "-1.863" "16"  "24.93" "4.793"
##                      "-1.864" "1"   "5.84"  "2.597"
##                      "-1.865" "14"  "23.89" "5.303"
##                      "-1.865" "0"   "3.17"  "1.7"
##                      "-1.865" "1"   "4.22"  "1.727"
##                      "-1.865" "2"   "6.09"  "2.193"
##                      "-1.865" "2"   "7.48"  "2.939"
##                      "-1.865" "0"   "3.94"  "2.112"
##                      "-1.868" "2"   "7.54"  "2.966"
##                      "-1.868" "0"   "3.01"  "1.611"
##                      "-1.868" "1"   "4.34"  "1.788"
##                      "-1.869" "0"   "3.33"  "1.781"
##                      "-1.869" "0"   "3.33"  "1.781"
##                      "-1.869" "0"   "3.33"  "1.781"
##                      "-1.869" "0"   "4.02"  "2.151"
##                      "-1.869" "0"   "2.95"  "1.579"
##                      "-1.869" "0"   "3.33"  "1.781"
##                      "-1.869" "0"   "3.33"  "1.781"
##                      "-1.869" "0"   "3.33"  "1.781"
##                      "-1.869" "0"   "3.33"  "1.781"
##                      "-1.869" "0"   "3.33"  "1.781"
```

```
##                    "-1.87"   "3"     "7.91"    "2.625"
##                    "-1.87"   "14"    "22.4"    "4.492"
##                    "-1.87"   "0"     "3.56"    "1.903"
##                    "-1.87"   "1"     "4.79"    "2.027"
##                    "-1.871"  "7"     "14.25"   "3.875"
##                    "-1.871"  "0"     "4.24"    "2.266"
##                    "-1.871"  "49"    "63.73"   "7.873"
##                    "-1.871"  "1"     "4.98"    "2.127"
##                    "-1.872"  "25"    "35.92"   "5.834"
##                    "-1.873"  "1"     "4.67"    "1.959"
##                    "-1.873"  "8"     "16.01"   "4.277"
##                    "-1.873"  "17"    "25.74"   "4.666"
##                    "-1.873"  "0"     "4.13"    "2.205"
##                    "-1.874"  "130"   "150.46"  "10.92"
##                    "-1.874"  "1"     "4.94"    "2.103"
##                    "-1.875"  "25"    "35.18"   "5.428"
##                    "-1.875"  "1"     "4.82"    "2.037"
##                    "-1.875"  "0"     "4.04"    "2.155"
##                    "-1.875"  "8"     "14.81"   "3.631"
##                    "-1.875"  "2"     "6.99"    "2.661"
##                    "-1.875"  "0"     "4.04"    "2.155"
##                    "-1.876"  "181"   "208.55"  "14.687"
##                    "-1.876"  "1"     "5.03"    "2.148"
##                    "-1.877"  "7"     "13.66"   "3.548"
##                    "-1.877"  "6"     "11.69"   "3.031"
##                    "-1.877"  "0"     "2.55"    "1.359"
##                    "-1.878"  "0"     "2.99"    "1.592"
##                    "-1.878"  "0"     "3.02"    "1.608"
##                    "-1.879"  "0"     "3.79"    "2.017"
##                    "-1.879"  "0"     "3.4"     "1.809"
##                    "-1.879"  "0"     "3.79"    "2.017"
##                    "-1.879"  "0"     "3.4"     "1.809"
##                    "-1.879"  "0"     "3.4"     "1.809"
##                    "-1.879"  "0"     "3.4"     "1.809"
##                    "-1.879"  "0"     "3.4"     "1.809"
##                    "-1.88"   "0"     "3.69"    "1.963"
##                    "-1.881"  "1"     "5.73"    "2.514"
##                    "-1.881"  "0"     "3.55"    "1.888"
##                    "-1.882"  "2"     "6.17"    "2.216"
##                    "-1.883"  "154"   "178.08"  "12.786"
##                    "-1.883"  "10"    "16.61"   "3.51"
##                    "-1.883"  "1"     "4.6"     "1.912"
##                    "-1.884"  "0"     "2.86"    "1.518"
##                    "-1.884"  "2"     "6.87"    "2.585"
##                    "-1.885"  "13"    "21.01"   "4.249"
##                    "-1.887"  "2"     "6.45"    "2.359"
##                    "-1.887"  "1"     "4.86"    "2.045"
##                    "-1.888"  "45"    "60.04"   "7.967"
##                    "-1.888"  "1"     "5.1"     "2.172"
##                    "-1.888"  "0"     "3"       "1.589"
##                    "-1.889"  "6"     "12.47"   "3.424"
##                    "-1.891"  "1"     "5.47"    "2.363"
##                    "-1.891"  "2"     "6.9"     "2.592"
##                    "-1.891"  "7"     "14.36"   "3.891"
```

```
##                    "-1.891"  "2"    "6.39"    "2.322"
##                    "-1.891"  "3"    "7.94"    "2.612"
##                    "-1.891"  "2"    "6.39"    "2.322"
##                    "-1.891"  "0"    "3.31"    "1.751"
##                    "-1.891"  "2"    "6.39"    "2.322"
##                    "-1.891"  "2"    "6.39"    "2.322"
##                    "-1.892"  "14"   "24.88"   "5.751"
##                    "-1.892"  "2"    "6.55"    "2.405"
##                    "-1.893"  "4"    "11"      "3.698"
##                    "-1.894"  "1"    "5.12"    "2.176"
##                    "-1.894"  "3"    "8.25"    "2.772"
##                    "-1.894"  "0"    "3.33"    "1.758"
##                    "-1.895"  "4"    "9.37"    "2.834"
##                    "-1.896"  "1"    "5.29"    "2.262"
##                    "-1.896"  "2"    "7.62"    "2.964"
##                    "-1.896"  "0"    "3.65"    "1.925"
##                    "-1.897"  "0"    "3.75"    "1.977"
##                    "-1.897"  "3"    "8.37"    "2.831"
##                    "-1.897"  "2"    "6.28"    "2.257"
##                    "-1.898"  "1"    "4.91"    "2.06"
##                    "-1.899"  "0"    "4.87"    "2.565"
##                    "-1.9"    "1"    "5.6"     "2.42"
##                    "-1.9"    "0"    "3.07"    "1.616"
##                    "-1.901"  "15"   "24.06"   "4.765"
##                    "-1.902"  "23"   "33.32"   "5.427"
##                    "-1.902"  "11"   "18.29"   "3.833"
##                    "-1.904"  "1"    "5.28"    "2.248"
##                    "-1.904"  "1"    "5.28"    "2.248"
##                    "-1.906"  "3"    "7.85"    "2.544"
##                    "-1.906"  "28"   "38.95"   "5.744"
##                    "-1.906"  "7"    "14.41"   "3.888"
##                    "-1.906"  "25"   "35.89"   "5.714"
##                    "-1.907"  "0"    "3.07"    "1.61"
##                    "-1.907"  "0"    "3.37"    "1.768"
##                    "-1.907"  "0"    "4.53"    "2.376"
##                    "-1.908"  "2"    "6.76"    "2.495"
##                    "-1.908"  "4"    "9.77"    "3.025"
##                    "-1.909"  "4"    "9.19"    "2.718"
##                    "-1.909"  "2"    "6.26"    "2.232"
##                    "-1.909"  "0"    "3.4"     "1.781"
##                    "-1.91"   "0"    "3.83"    "2.005"
##                    "-1.91"   "1"    "6.38"    "2.817"
##                    "-1.91"   "150"  "175.28"  "13.232"
##                    "-1.91"   "7"    "15.28"   "4.335"
##                    "-1.911"  "9"    "16.79"   "4.076"
##                    "-1.911"  "1"    "4.95"    "2.066"
##                    "-1.913"  "6"    "12.37"   "3.329"
##                    "-1.913"  "32"   "43.75"   "6.142"
##                    "-1.914"  "0"    "2.62"    "1.369"
##                    "-1.914"  "0"    "3.76"    "1.965"
##                    "-1.914"  "8"    "16.57"   "4.477"
##                    "-1.915"  "12"   "21.03"   "4.715"
##                    "-1.916"  "0"    "3.62"    "1.89"
##                    "-1.917"  "5"    "11.79"   "3.543"
```

```
##                     "-1.917"  "0"   "3.64"    "1.899"
##                     "-1.918"  "0"   "2.96"    "1.543"
##                     "-1.918"  "2"   "6.44"    "2.315"
##                     "-1.919"  "28"  "38.26"   "5.348"
##                     "-1.92"   "0"   "2.87"    "1.495"
##                     "-1.92"   "1"   "5.99"    "2.6"
##                     "-1.92"   "2"   "6.74"    "2.468"
##                     "-1.92"   "0"   "3.36"    "1.75"
##                     "-1.92"   "0"   "3.36"    "1.75"
##                     "-1.921"  "5"   "11.38"   "3.321"
##                     "-1.921"  "3"   "7.89"    "2.546"
##                     "-1.921"  "13"  "22.39"   "4.888"
##                     "-1.921"  "0"   "3.09"    "1.609"
##                     "-1.921"  "0"   "3.01"    "1.567"
##                     "-1.921"  "5"   "11.5"    "3.383"
##                     "-1.922"  "0"   "3.23"    "1.681"
##                     "-1.922"  "2"   "7"       "2.601"
##                     "-1.923"  "28"  "39.87"   "6.174"
##                     "-1.924"  "0"   "4"       "2.079"
##                     "-1.924"  "0"   "3.34"    "1.736"
##                     "-1.924"  "3"   "8.73"    "2.978"
##                     "-1.925"  "1"   "4.56"    "1.849"
##                     "-1.925"  "1"   "5.44"    "2.306"
##                     "-1.926"  "15"  "23.97"   "4.657"
##                     "-1.926"  "8"   "16.49"   "4.407"
##                     "-1.927"  "66"  "82.47"   "8.546"
##                     "-1.927"  "90"  "110.03"  "10.397"
##                     "-1.927"  "0"   "3.19"    "1.656"
##                     "-1.927"  "14"  "22.31"   "4.313"
##                     "-1.927"  "0"   "3.7"     "1.92"
##                     "-1.928"  "1"   "4.9"     "2.023"
##                     "-1.93"   "1"   "5.76"    "2.466"
##                     "-1.93"   "1"   "5.76"    "2.466"
##                     "-1.93"   "1"   "4.38"    "1.751"
##                     "-1.93"   "0"   "2.39"    "1.238"
##                     "-1.93"   "1"   "4.38"    "1.751"
##                     "-1.933"  "0"   "2.58"    "1.335"
##                     "-1.934"  "0"   "3.46"    "1.789"
##                     "-1.935"  "10"  "17.39"   "3.819"
##                     "-1.935"  "1"   "5.73"    "2.445"
##                     "-1.935"  "0"   "3.11"    "1.607"
##                     "-1.936"  "8"   "15.84"   "4.049"
##                     "-1.938"  "3"   "8.02"    "2.59"
##                     "-1.938"  "1"   "5.1"     "2.115"
##                     "-1.939"  "12"  "20.36"   "4.312"
##                     "-1.94"   "1"   "5.7"     "2.423"
##                     "-1.941"  "1"   "5.77"    "2.457"
##                     "-1.941"  "7"   "14.61"   "3.921"
##                     "-1.941"  "0"   "2.79"    "1.438"
##                     "-1.942"  "0"   "3.56"    "1.833"
##                     "-1.942"  "4"   "9.53"    "2.848"
##                     "-1.943"  "1"   "4.85"    "1.982"
##                     "-1.945"  "4"   "9.8"     "2.981"
##                     "-1.945"  "5"   "11.35"   "3.264"
```

```
##                     "-1.946"  "8"     "16.13"    "4.177"
##                     "-1.946"  "0"     "4.11"     "2.112"
##                     "-1.947"  "0"     "4.51"     "2.316"
##                     "-1.947"  "11"    "18.85"    "4.031"
##                     "-1.947"  "31"    "41.82"    "5.557"
##                     "-1.948"  "1"     "4.57"     "1.833"
##                     "-1.948"  "0"     "3.57"     "1.833"
##                     "-1.948"  "2"     "7"        "2.566"
##                     "-1.948"  "0"     "3.9"      "2.003"
##                     "-1.949"  "0"     "3.43"     "1.76"
##                     "-1.951"  "22"    "32.28"    "5.269"
##                     "-1.952"  "24"    "34.71"    "5.487"
##                     "-1.952"  "0"     "4.27"     "2.187"
##                     "-1.953"  "0"     "3.46"     "1.772"
##                     "-1.954"  "0"     "3.57"     "1.827"
##                     "-1.957"  "3"     "7.93"     "2.52"
##                     "-1.957"  "42"    "55.25"    "6.769"
##                     "-1.958"  "1"     "5.37"     "2.232"
##                     "-1.958"  "1"     "5.41"     "2.252"
##                     "-1.959"  "0"     "3.91"     "1.995"
##                     "-1.96"   "0"     "3.62"     "1.847"
##                     "-1.962"  "0"     "3.01"     "1.534"
##                     "-1.962"  "0"     "4.34"     "2.212"
##                     "-1.962"  "3"     "7.42"     "2.253"
##                     "-1.963"  "0"     "3.49"     "1.778"
##                     "-1.965"  "0"     "3.25"     "1.654"
##                     "-1.965"  "46"    "61.06"    "7.664"
##                     "-1.966"  "1"     "5.6"      "2.34"
##                     "-1.966"  "135"   "158.64"   "12.024"
##                     "-1.966"  "2"     "7.64"     "2.869"
##                     "-1.966"  "1"     "5.6"      "2.34"
##                     "-1.966"  "1"     "5.6"      "2.34"
##                     "-1.967"  "0"     "3.09"     "1.571"
##                     "-1.967"  "0"     "3.09"     "1.571"
##                     "-1.967"  "5"     "12.04"    "3.579"
##                     "-1.968"  "0"     "3.85"     "1.956"
##                     "-1.969"  "21"    "33.9"     "6.553"
##                     "-1.97"   "1"     "4.96"     "2.01"
##                     "-1.97"   "1"     "4.96"     "2.01"
##                     "-1.97"   "1"     "4.96"     "2.01"
##                     "-1.971"  "2"     "6.7"      "2.385"
##                     "-1.971"  "0"     "4.09"     "2.075"
##                     "-1.971"  "2"     "7.41"     "2.745"
##                     "-1.972"  "2"     "7.39"     "2.734"
##                     "-1.973"  "0"     "3.65"     "1.85"
##                     "-1.974"  "188"   "211.6"    "11.955"
##                     "-1.975"  "4"     "11.29"    "3.691"
##                     "-1.975"  "2"     "6.45"     "2.254"
##                     "-1.975"  "2"     "6.45"     "2.254"
##                     "-1.975"  "2"     "6.45"     "2.254"
##                     "-1.975"  "2"     "6.45"     "2.254"
##                     "-1.977"  "0"     "3.42"     "1.73"
##                     "-1.978"  "0"     "3.97"     "2.007"
##                     "-1.978"  "664"   "736.44"   "36.627"
```

```
##                      "-1.978"  "1"    "5.03"    "2.037"
##                      "-1.978"  "0"    "3.57"    "1.805"
##                      "-1.979"  "1"    "5.96"    "2.506"
##                      "-1.979"  "4"    "10.58"   "3.325"
##                      "-1.979"  "3"    "8.63"    "2.845"
##                      "-1.981"  "3"    "10.26"   "3.664"
##                      "-1.982"  "2"    "7.72"    "2.885"
##                      "-1.983"  "0"    "3.9"     "1.967"
##                      "-1.983"  "0"    "3.9"     "1.967"
##                      "-1.983"  "0"    "3.9"     "1.967"
##                      "-1.983"  "0"    "3.48"    "1.755"
##                      "-1.983"  "0"    "3.48"    "1.755"
##                      "-1.983"  "0"    "3.48"    "1.755"
##                      "-1.983"  "0"    "3.48"    "1.755"
##                      "-1.983"  "0"    "3.48"    "1.755"
##                      "-1.984"  "0"    "4.16"    "2.097"
##                      "-1.984"  "4"    "10.72"   "3.388"
##                      "-1.984"  "0"    "3.72"    "1.875"
##                      "-1.985"  "134"  "161.65"  "13.929"
##                      "-1.985"  "1"    "4.91"    "1.97"
##                      "-1.987"  "1"    "5.21"    "2.119"
##                      "-1.987"  "7"    "14.2"    "3.624"
##                      "-1.988"  "0"    "4.13"    "2.078"
##                      "-1.989"  "0"    "4.07"    "2.046"
##                      "-1.989"  "0"    "3.48"    "1.749"
##                      "-1.989"  "0"    "3.35"    "1.684"
##                      "-1.989"  "0"    "5.37"    "2.699"
##                      "-1.99"   "9"    "17.21"   "4.125"
##                      "-1.99"   "1"    "5.71"    "2.367"
##                      "-1.99"   "0"    "3.98"    "2"
##                      "-1.99"   "22"   "33.52"   "5.788"
##                      "-1.991"  "0"    "3.54"    "1.778"
##                      "-1.991"  "6"    "13.61"   "3.822"
##                      "-1.991"  "2"    "7.49"    "2.758"
##                      "-1.992"  "0"    "4.55"    "2.285"
##                      "-1.993"  "311"  "357.72"  "23.443"
##                      "-1.994"  "2"    "8.01"    "3.013"
##                      "-1.994"  "1"    "5.4"     "2.207"
##                      "-1.994"  "3"    "9.96"    "3.49"
##                      "-1.996"  "1"    "5.64"    "2.325"
##                      "-1.998"  "3"    "8.64"    "2.823"
##                      "-1.998"  "11"   "19.96"   "4.485"
##                      "-1.998"  "0"    "4.28"    "2.142"
##                      "-1.999"  "5"    "13.01"   "4.006"
##                      "-1.999"  "0"    "3.7"     "1.85"
##                      "-2"      "3"    "8.74"    "2.87"
##                      "-2"      "8"    "15.32"   "3.659"
##                      "-2"      "30"   "42.04"   "6.02"
##                      "-2.001"  "5"    "11.5"    "3.249"
##                      "-2.002"  "6"    "12.77"   "3.381"
##                      "-2.003"  "38"   "53.16"   "7.57"
##                      "-2.003"  "1"    "5.1"     "2.047"
##                      "-2.004"  "0"    "4.15"    "2.071"
##                      "-2.004"  "2"    "6.97"    "2.48"
```

```
##                    "-2.005"  "13"   "23.52"   "5.246"
##                    "-2.005"  "0"    "3.88"    "1.935"
##                    "-2.006"  "8"    "15.26"   "3.62"
##                    "-2.006"  "6"    "13.25"   "3.614"
##                    "-2.007"  "0"    "3.72"    "1.854"
##                    "-2.007"  "1"    "5.1"     "2.042"
##                    "-2.007"  "0"    "4.46"    "2.222"
##                    "-2.008"  "10"   "17.87"   "3.92"
##                    "-2.008"  "4"    "9.18"    "2.58"
##                    "-2.008"  "1"    "5.22"    "2.101"
##                    "-2.009"  "0"    "4.62"    "2.3"
##                    "-2.009"  "0"    "5.3"     "2.638"
##                    "-2.009"  "0"    "4.58"    "2.279"
##                    "-2.009"  "17"   "28.62"   "5.785"
##                    "-2.01"   "0"    "3.56"    "1.771"
##                    "-2.011"  "1"    "5.41"    "2.193"
##                    "-2.011"  "14"   "23.35"   "4.65"
##                    "-2.012"  "3"    "9.14"    "3.052"
##                    "-2.013"  "4"    "10.85"   "3.403"
##                    "-2.014"  "2"    "7.23"    "2.597"
##                    "-2.014"  "7"    "14.41"   "3.679"
##                    "-2.014"  "2"    "6.82"    "2.393"
##                    "-2.015"  "0"    "3.61"    "1.792"
##                    "-2.015"  "0"    "3.59"    "1.781"
##                    "-2.015"  "2"    "7.52"    "2.739"
##                    "-2.015"  "0"    "3.59"    "1.781"
##                    "-2.016"  "7"    "14.72"   "3.83"
##                    "-2.016"  "0"    "3.48"    "1.726"
##                    "-2.017"  "11"   "20.93"   "4.924"
##                    "-2.017"  "101"  "122.18"  "10.5"
##                    "-2.017"  "13"   "22.1"    "4.511"
##                    "-2.018"  "13"   "23.84"   "5.372"
##                    "-2.019"  "0"    "3.97"    "1.967"
##                    "-2.019"  "0"    "3.03"    "1.501"
##                    "-2.019"  "144"  "168.83"  "12.299"
##                    "-2.019"  "0"    "3.03"    "1.501"
##                    "-2.019"  "0"    "3.03"    "1.501"
##                    "-2.019"  "0"    "3.17"    "1.57"
##                    "-2.02"   "0"    "4.37"    "2.163"
##                    "-2.022"  "2"    "7.13"    "2.537"
##                    "-2.022"  "1"    "5.67"    "2.31"
##                    "-2.022"  "0"    "3.59"    "1.776"
##                    "-2.023"  "0"    "3.48"    "1.72"
##                    "-2.023"  "0"    "4.05"    "2.002"
##                    "-2.023"  "0"    "3.36"    "1.661"
##                    "-2.024"  "1"    "4.92"    "1.937"
##                    "-2.026"  "0"    "3.35"    "1.654"
##                    "-2.026"  "1"    "4.93"    "1.94"
##                    "-2.029"  "0"    "3.4"     "1.676"
##                    "-2.03"   "14"   "23.08"   "4.474"
##                    "-2.03"   "4"    "10.61"   "3.256"
##                    "-2.03"   "4"    "10.61"   "3.256"
##                    "-2.031"  "0"    "4.08"    "2.008"
##                    "-2.031"  "3"    "8.54"    "2.728"
```

```
##                    "-2.032"  "2"     "6.62"    "2.273"
##                    "-2.032"  "0"     "5.06"    "2.49"
##                    "-2.032"  "0"     "4.18"    "2.057"
##                    "-2.033"  "5"     "11.47"   "3.183"
##                    "-2.033"  "4"     "10.53"   "3.211"
##                    "-2.033"  "19"    "28.98"   "4.909"
##                    "-2.034"  "35"    "49.39"   "7.075"
##                    "-2.034"  "2"     "7.33"    "2.621"
##                    "-2.035"  "2"     "7.24"    "2.575"
##                    "-2.035"  "2"     "7.84"    "2.87"
##                    "-2.036"  "3"     "9.13"    "3.011"
##                    "-2.037"  "0"     "4.31"    "2.116"
##                    "-2.037"  "3"     "8.41"    "2.656"
##                    "-2.037"  "3"     "8.41"    "2.656"
##                    "-2.038"  "3"     "9.12"    "3.003"
##                    "-2.038"  "3"     "9.12"    "3.003"
##                    "-2.038"  "3"     "9.63"    "3.253"
##                    "-2.039"  "4"     "10.33"   "3.104"
##                    "-2.041"  "0"     "3.61"    "1.769"
##                    "-2.041"  "0"     "3.45"    "1.69"
##                    "-2.041"  "0"     "3.63"    "1.779"
##                    "-2.041"  "6"     "13.57"   "3.71"
##                    "-2.041"  "1"     "5.43"    "2.171"
##                    "-2.043"  "2"     "7.91"    "2.892"
##                    "-2.043"  "0"     "3.27"    "1.601"
##                    "-2.043"  "2"     "8.62"    "3.24"
##                    "-2.045"  "5"     "12.77"   "3.8"
##                    "-2.045"  "30"    "42.63"   "6.175"
##                    "-2.046"  "1"     "5.49"    "2.195"
##                    "-2.046"  "0"     "4.19"    "2.048"
##                    "-2.047"  "12"    "21.96"   "4.866"
##                    "-2.047"  "298"   "344.91"  "22.918"
##                    "-2.047"  "0"     "3.77"    "1.841"
##                    "-2.048"  "33"    "46.12"   "6.408"
##                    "-2.049"  "9"     "17.13"   "3.969"
##                    "-2.049"  "1"     "5.94"    "2.411"
##                    "-2.051"  "0"     "3.8"     "1.853"
##                    "-2.051"  "0"     "3.8"     "1.853"
##                    "-2.052"  "0"     "4.15"    "2.022"
##                    "-2.053"  "7"     "16.21"   "4.486"
##                    "-2.053"  "9"     "16.03"   "3.424"
##                    "-2.053"  "0"     "3.31"    "1.612"
##                    "-2.053"  "0"     "3.31"    "1.612"
##                    "-2.053"  "0"     "3.31"    "1.612"
##                    "-2.054"  "2"     "8.84"    "3.329"
##                    "-2.054"  "0"     "3.46"    "1.684"
##                    "-2.055"  "1"     "5.07"    "1.981"
##                    "-2.057"  "2"     "5.97"    "1.93"
##                    "-2.057"  "2"     "8.11"    "2.971"
##                    "-2.059"  "211"   "242.02"  "15.066"
##                    "-2.059"  "96"    "118.22"  "10.791"
##                    "-2.06"   "4"     "9.65"    "2.743"
##                    "-2.06"   "4"     "9.65"    "2.743"
##                    "-2.06"   "4"     "9.65"    "2.743"
```

```
##                    "-2.06"   "4"    "9.65"    "2.743"
##                    "-2.06"   "4"    "9.65"    "2.743"
##                    "-2.06"   "7"    "14.82"   "3.796"
##                    "-2.061"  "0"    "5.3"     "2.572"
##                    "-2.062"  "3"    "8.6"     "2.715"
##                    "-2.062"  "1"    "5.63"    "2.246"
##                    "-2.062"  "0"    "4.13"    "2.003"
##                    "-2.062"  "0"    "3.12"    "1.513"
##                    "-2.063"  "0"    "3.24"    "1.571"
##                    "-2.063"  "1"    "6.02"    "2.433"
##                    "-2.063"  "0"    "4.41"    "2.137"
##                    "-2.064"  "0"    "4.23"    "2.049"
##                    "-2.064"  "1"    "4.55"    "1.72"
##                    "-2.065"  "14"   "21.41"   "3.588"
##                    "-2.067"  "9"    "17.74"   "4.227"
##                    "-2.067"  "0"    "4.21"    "2.037"
##                    "-2.069"  "0"    "3.46"    "1.672"
##                    "-2.069"  "0"    "3.85"    "1.861"
##                    "-2.069"  "1"    "4.8"     "1.837"
##                    "-2.07"   "0"    "5.33"    "2.574"
##                    "-2.07"   "0"    "4.37"    "2.111"
##                    "-2.071"  "0"    "4.25"    "2.052"
##                    "-2.071"  "0"    "3.93"    "1.898"
##                    "-2.073"  "1"    "5.88"    "2.354"
##                    "-2.073"  "0"    "3.44"    "1.659"
##                    "-2.073"  "4"    "9.46"    "2.634"
##                    "-2.074"  "0"    "4.23"    "2.039"
##                    "-2.074"  "1"    "5.38"    "2.112"
##                    "-2.075"  "0"    "4.14"    "1.995"
##                    "-2.075"  "1"    "5.85"    "2.337"
##                    "-2.075"  "2"    "5.8"     "1.831"
##                    "-2.075"  "1"    "6.72"    "2.756"
##                    "-2.075"  "0"    "4.72"    "2.274"
##                    "-2.076"  "1"    "6.87"    "2.827"
##                    "-2.077"  "49"   "64.8"    "7.608"
##                    "-2.078"  "9"    "17.32"   "4.005"
##                    "-2.079"  "0"    "4.85"    "2.333"
##                    "-2.079"  "7"    "14.83"   "3.766"
##                    "-2.08"   "0"    "3.66"    "1.759"
##                    "-2.08"   "4"    "11.32"   "3.519"
##                    "-2.08"   "2"    "7.86"    "2.818"
##                    "-2.081"  "0"    "4.48"    "2.153"
##                    "-2.083"  "0"    "3.86"    "1.853"
##                    "-2.083"  "0"    "3.86"    "1.853"
##                    "-2.083"  "6"    "13.39"   "3.547"
##                    "-2.083"  "2"    "7.47"    "2.626"
##                    "-2.083"  "0"    "3.58"    "1.718"
##                    "-2.084"  "10"   "19.14"   "4.386"
##                    "-2.084"  "5"    "11.3"    "3.023"
##                    "-2.085"  "94"   "117.19"  "11.121"
##                    "-2.086"  "0"    "4.19"    "2.009"
##                    "-2.086"  "1"    "6.12"    "2.455"
##                    "-2.087"  "0"    "4.16"    "1.994"
##                    "-2.088"  "0"    "3.35"    "1.604"
```

```
##                      "-2.089"  "288"   "324.44"  "17.443"
##                      "-2.089"  "4"     "9.72"    "2.738"
##                      "-2.09"   "0"     "4.45"    "2.129"
##                      "-2.09"   "0"     "4.45"    "2.129"
##                      "-2.09"   "0"     "3.05"    "1.459"
##                      "-2.09"   "0"     "3.05"    "1.459"
##                      "-2.09"   "0"     "4.45"    "2.129"
##                      "-2.09"   "0"     "4.53"    "2.167"
##                      "-2.09"   "0"     "3.05"    "1.459"
##                      "-2.09"   "0"     "4.45"    "2.129"
##                      "-2.091"  "69"    "89"      "9.566"
##                      "-2.091"  "4"     "10.18"   "2.955"
##                      "-2.091"  "3"     "9.77"    "3.238"
##                      "-2.092"  "0"     "3.84"    "1.835"
##                      "-2.092"  "5"     "12.53"   "3.6"
##                      "-2.092"  "8"     "17.28"   "4.436"
##                      "-2.094"  "1"     "5.89"    "2.335"
##                      "-2.094"  "1"     "6.6"     "2.674"
##                      "-2.094"  "0"     "4.37"    "2.087"
##                      "-2.096"  "21"    "33.01"   "5.729"
##                      "-2.096"  "0"     "3.74"    "1.784"
##                      "-2.097"  "0"     "5.36"    "2.557"
##                      "-2.097"  "1"     "6.45"    "2.599"
##                      "-2.097"  "0"     "3.83"    "1.826"
##                      "-2.098"  "5"     "13.16"   "3.889"
##                      "-2.098"  "0"     "4"       "1.907"
##                      "-2.099"  "0"     "4.27"    "2.034"
##                      "-2.099"  "0"     "3.2"     "1.524"
##                      "-2.1"    "0"     "3.5"     "1.667"
##                      "-2.101"  "1"     "4.9"     "1.856"
##                      "-2.101"  "1"     "5.42"    "2.104"
##                      "-2.102"  "0"     "5.19"    "2.469"
##                      "-2.102"  "0"     "5.19"    "2.469"
##                      "-2.102"  "1"     "6.73"    "2.726"
##                      "-2.102"  "8"     "17.11"   "4.334"
##                      "-2.103"  "3"     "8.72"    "2.719"
##                      "-2.104"  "0"     "4.52"    "2.148"
##                      "-2.104"  "0"     "4.52"    "2.148"
##                      "-2.104"  "0"     "4.52"    "2.148"
##                      "-2.104"  "0"     "4.52"    "2.148"
##                      "-2.104"  "0"     "4.18"    "1.987"
##                      "-2.104"  "0"     "4.18"    "1.987"
##                      "-2.104"  "0"     "4.13"    "1.963"
##                      "-2.105"  "15"    "24.4"    "4.465"
##                      "-2.106"  "0"     "5.09"    "2.417"
##                      "-2.106"  "11"    "19.5"    "4.036"
##                      "-2.108"  "44"    "61.58"   "8.339"
##                      "-2.109"  "6"     "12.93"   "3.285"
##                      "-2.109"  "1"     "5.98"    "2.361"
##                      "-2.11"   "8"     "15.67"   "3.635"
##                      "-2.111"  "8"     "15.54"   "3.572"
##                      "-2.111"  "2"     "7.12"    "2.426"
##                      "-2.111"  "14"    "24.63"   "5.035"
##                      "-2.112"  "2"     "7.15"    "2.439"
```

```
##                      "-2.113"  "0"    "3.1"     "1.467"
##                      "-2.114"  "3"    "8.41"    "2.559"
##                      "-2.115"  "26"   "37.57"   "5.47"
##                      "-2.115"  "0"    "3.97"    "1.877"
##                      "-2.116"  "0"    "5.33"    "2.519"
##                      "-2.116"  "1"    "5.05"    "1.914"
##                      "-2.117"  "0"    "4.39"    "2.074"
##                      "-2.117"  "0"    "4.39"    "2.074"
##                      "-2.118"  "0"    "4.32"    "2.039"
##                      "-2.118"  "0"    "4.79"    "2.262"
##                      "-2.119"  "1"    "6.11"    "2.412"
##                      "-2.119"  "13"   "22.36"   "4.416"
##                      "-2.12"   "0"    "4.83"    "2.279"
##                      "-2.121"  "3"    "9.69"    "3.155"
##                      "-2.121"  "1"    "6.23"    "2.465"
##                      "-2.121"  "1"    "6.23"    "2.465"
##                      "-2.122"  "0"    "3.67"    "1.729"
##                      "-2.122"  "2"    "6.39"    "2.069"
##                      "-2.122"  "97"   "118.37"  "10.072"
##                      "-2.123"  "0"    "3.75"    "1.766"
##                      "-2.124"  "0"    "3.3"     "1.554"
##                      "-2.124"  "0"    "3.3"     "1.554"
##                      "-2.124"  "1"    "6.57"    "2.622"
##                      "-2.124"  "0"    "3.3"     "1.554"
##                      "-2.124"  "0"    "3.3"     "1.554"
##                      "-2.124"  "0"    "3.3"     "1.554"
##                      "-2.126"  "0"    "3.11"    "1.463"
##                      "-2.126"  "0"    "3.11"    "1.463"
##                      "-2.126"  "0"    "3.11"    "1.463"
##                      "-2.127"  "0"    "4.99"    "2.346"
##                      "-2.127"  "0"    "3.48"    "1.636"
##                      "-2.128"  "6"    "13.35"   "3.454"
##                      "-2.128"  "7"    "14.61"   "3.576"
##                      "-2.128"  "6"    "13.22"   "3.392"
##                      "-2.129"  "2"    "8.79"    "3.189"
##                      "-2.13"   "0"    "4.67"    "2.193"
##                      "-2.13"   "2"    "6.41"    "2.07"
##                      "-2.13"   "1"    "6.08"    "2.385"
##                      "-2.131"  "3"    "10.27"   "3.411"
##                      "-2.131"  "7"    "14.79"   "3.655"
##                      "-2.131"  "1"    "6.82"    "2.732"
##                      "-2.131"  "3"    "8.66"    "2.656"
##                      "-2.131"  "1"    "6.66"    "2.656"
##                      "-2.131"  "4"    "11.29"   "3.421"
##                      "-2.132"  "6"    "14.51"   "3.991"
##                      "-2.132"  "1"    "5.83"    "2.265"
##                      "-2.132"  "2"    "7.67"    "2.659"
##                      "-2.132"  "7"    "14.48"   "3.509"
##                      "-2.133"  "2"    "8.62"    "3.104"
##                      "-2.133"  "17"   "27.44"   "4.893"
##                      "-2.133"  "6"    "13.82"   "3.666"
##                      "-2.133"  "8"    "16.32"   "3.9"
##                      "-2.134"  "3"    "9.57"    "3.079"
##                      "-2.134"  "132"  "158.67"  "12.497"
```

```
##                      "-2.136"  "58"  "76.88"   "8.84"
##                      "-2.136"  "3"   "9.18"    "2.893"
##                      "-2.136"  "11"  "21.33"   "4.837"
##                      "-2.137"  "1"   "6.31"    "2.485"
##                      "-2.137"  "25"  "36.42"   "5.343"
##                      "-2.139"  "0"   "4.25"    "1.987"
##                      "-2.139"  "0"   "5.17"    "2.417"
##                      "-2.141"  "3"   "10.35"   "3.433"
##                      "-2.142"  "0"   "4.49"    "2.096"
##                      "-2.142"  "6"   "13.14"   "3.333"
##                      "-2.142"  "0"   "4.49"    "2.096"
##                      "-2.142"  "0"   "4.49"    "2.096"
##                      "-2.142"  "0"   "4.53"    "2.115"
##                      "-2.142"  "6"   "15.92"   "4.631"
##                      "-2.142"  "0"   "3.59"    "1.676"
##                      "-2.142"  "6"   "13.32"   "3.417"
##                      "-2.142"  "0"   "4.54"    "2.12"
##                      "-2.142"  "0"   "4.49"    "2.096"
##                      "-2.142"  "0"   "4.53"    "2.115"
##                      "-2.142"  "0"   "4.49"    "2.096"
##                      "-2.142"  "0"   "4.49"    "2.096"
##                      "-2.142"  "0"   "4.49"    "2.096"
##                      "-2.142"  "0"   "4.49"    "2.096"
##                      "-2.143"  "0"   "4.67"    "2.179"
##                      "-2.143"  "7"   "14.62"   "3.556"
##                      "-2.143"  "5"   "12.66"   "3.574"
##                      "-2.144"  "6"   "13.46"   "3.48"
##                      "-2.144"  "2"   "7.98"    "2.789"
##                      "-2.144"  "2"   "8.76"    "3.153"
##                      "-2.144"  "0"   "3.67"    "1.712"
##                      "-2.145"  "0"   "4.64"    "2.163"
##                      "-2.145"  "3"   "9.98"    "3.254"
##                      "-2.146"  "1"   "5.95"    "2.307"
##                      "-2.146"  "1"   "6.52"    "2.572"
##                      "-2.147"  "36"  "49.03"   "6.068"
##                      "-2.147"  "8"   "15.7"    "3.586"
##                      "-2.147"  "8"   "15.7"    "3.586"
##                      "-2.147"  "8"   "15.7"    "3.586"
##                      "-2.148"  "19"  "29.24"   "4.768"
##                      "-2.148"  "6"   "12.39"   "2.974"
##                      "-2.149"  "2"   "8.9"     "3.211"
##                      "-2.15"   "0"   "4.86"    "2.261"
##                      "-2.152"  "1"   "5.05"    "1.882"
##                      "-2.152"  "1"   "6.79"    "2.69"
##                      "-2.153"  "0"   "4.3"     "1.997"
##                      "-2.153"  "10"  "19.31"   "4.324"
##                      "-2.153"  "62"  "81.03"   "8.84"
##                      "-2.153"  "88"  "109.74"  "10.096"
##                      "-2.153"  "0"   "4.47"    "2.077"
##                      "-2.153"  "0"   "5.08"    "2.36"
##                      "-2.154"  "85"  "106.95"  "10.191"
##                      "-2.154"  "0"   "4.18"    "1.94"
##                      "-2.155"  "2"   "5.87"    "1.796"
##                      "-2.155"  "0"   "4.43"    "2.056"
```

```
##                      "-2.155"  "2"   "5.87"    "1.796"
##                      "-2.156"  "0"   "4.15"    "1.925"
##                      "-2.156"  "3"   "8.91"    "2.742"
##                      "-2.157"  "1"   "7.63"    "3.074"
##                      "-2.157"  "19"  "30.71"   "5.43"
##                      "-2.158"  "0"   "3.68"    "1.705"
##                      "-2.158"  "6"   "12.64"   "3.077"
##                      "-2.158"  "0"   "3.68"    "1.705"
##                      "-2.158"  "0"   "3.68"    "1.705"
##                      "-2.158"  "0"   "3.68"    "1.705"
##                      "-2.158"  "0"   "3.68"    "1.705"
##                      "-2.16"   "4"   "10.67"   "3.088"
##                      "-2.16"   "0"   "4.87"    "2.255"
##                      "-2.161"  "82"  "106.22"  "11.207"
##                      "-2.161"  "30"  "42.2"    "5.644"
##                      "-2.161"  "7"   "14.66"   "3.545"
##                      "-2.162"  "0"   "4.11"    "1.901"
##                      "-2.162"  "16"  "27.55"   "5.344"
##                      "-2.164"  "0"   "3.6"     "1.664"
##                      "-2.164"  "5"   "12.04"   "3.253"
##                      "-2.165"  "3"   "9.23"    "2.877"
##                      "-2.168"  "1"   "5.11"    "1.896"
##                      "-2.168"  "9"   "16.47"   "3.445"
##                      "-2.169"  "0"   "4.19"    "1.932"
##                      "-2.169"  "0"   "4.38"    "2.019"
##                      "-2.17"   "9"   "18.02"   "4.156"
##                      "-2.171"  "3"   "9.65"    "3.063"
##                      "-2.173"  "3"   "8.29"    "2.434"
##                      "-2.173"  "1"   "5.98"    "2.292"
##                      "-2.173"  "9"   "17.9"    "4.096"
##                      "-2.173"  "1"   "5.4"     "2.025"
##                      "-2.173"  "1"   "5.62"    "2.126"
##                      "-2.175"  "1"   "6.2"     "2.391"
##                      "-2.177"  "0"   "4.23"    "1.943"
##                      "-2.177"  "0"   "4.16"    "1.911"
##                      "-2.178"  "56"  "73.67"   "8.113"
##                      "-2.179"  "2"   "8.01"    "2.758"
##                      "-2.179"  "6"   "13.45"   "3.418"
##                      "-2.18"   "0"   "5.79"    "2.656"
##                      "-2.18"   "6"   "14.62"   "3.954"
##                      "-2.181"  "0"   "3.71"    "1.701"
##                      "-2.183"  "0"   "3.65"    "1.672"
##                      "-2.184"  "2"   "7.73"    "2.624"
##                      "-2.184"  "14"  "22.57"   "3.924"
##                      "-2.184"  "0"   "4.76"    "2.179"
##                      "-2.184"  "0"   "4.91"    "2.248"
##                      "-2.184"  "0"   "4.95"    "2.267"
##                      "-2.185"  "0"   "3.45"    "1.579"
##                      "-2.186"  "2"   "6.68"    "2.141"
##                      "-2.188"  "0"   "4.21"    "1.924"
##                      "-2.189"  "0"   "4.16"    "1.9"
##                      "-2.19"   "0"   "4.67"    "2.132"
##                      "-2.19"   "36"  "51.49"   "7.072"
##                      "-2.191"  "2"   "8.01"    "2.743"
```

```
##                      "-2.192"  "0"    "3.24"    "1.478"
##                      "-2.193"  "9"    "16.8"    "3.556"
##                      "-2.193"  "10"   "18.34"   "3.804"
##                      "-2.194"  "3"    "8.76"    "2.625"
##                      "-2.194"  "1"    "6.2"     "2.37"
##                      "-2.194"  "6"    "14.93"   "4.071"
##                      "-2.194"  "0"    "4.72"    "2.151"
##                      "-2.195"  "0"    "4.77"    "2.174"
##                      "-2.195"  "20"   "32.9"    "5.877"
##                      "-2.197"  "0"    "4.58"    "2.085"
##                      "-2.197"  "1"    "5.93"    "2.244"
##                      "-2.2"    "0"    "5.68"    "2.582"
##                      "-2.2"    "3"    "10.9"    "3.592"
##                      "-2.201"  "11"   "20.89"   "4.494"
##                      "-2.202"  "0"    "3.99"    "1.812"
##                      "-2.203"  "0"    "5.29"    "2.401"
##                      "-2.204"  "1"    "6.18"    "2.35"
##                      "-2.204"  "5"    "12.05"   "3.198"
##                      "-2.207"  "26"   "39.13"   "5.949"
##                      "-2.207"  "5"    "12.43"   "3.367"
##                      "-2.207"  "5"    "12.43"   "3.367"
##                      "-2.207"  "5"    "12.43"   "3.367"
##                      "-2.208"  "0"    "5.04"    "2.283"
##                      "-2.208"  "9"    "17.34"   "3.777"
##                      "-2.208"  "1"    "5.89"    "2.215"
##                      "-2.209"  "8"    "17.46"   "4.282"
##                      "-2.209"  "0"    "6.01"    "2.721"
##                      "-2.209"  "0"    "5.14"    "2.327"
##                      "-2.209"  "2"    "7.7"     "2.58"
##                      "-2.209"  "1"    "7.28"    "2.843"
##                      "-2.21"   "25"   "37.69"   "5.743"
##                      "-2.21"   "2"    "7.73"    "2.593"
##                      "-2.211"  "0"    "4.29"    "1.94"
##                      "-2.212"  "1"    "6.92"    "2.677"
##                      "-2.212"  "1"    "5.89"    "2.211"
##                      "-2.212"  "20"   "33.36"   "6.039"
##                      "-2.212"  "1"    "6.92"    "2.677"
##                      "-2.213"  "0"    "4.31"    "1.947"
##                      "-2.213"  "3"    "9.78"    "3.064"
##                      "-2.214"  "15"   "26.02"   "4.977"
##                      "-2.216"  "17"   "28.61"   "5.24"
##                      "-2.217"  "0"    "4.15"    "1.872"
##                      "-2.217"  "2"    "8.23"    "2.81"
##                      "-2.218"  "0"    "3.34"    "1.506"
##                      "-2.219"  "305"  "358.1"   "23.926"
##                      "-2.222"  "0"    "5.3"     "2.385"
##                      "-2.222"  "0"    "4.22"    "1.899"
##                      "-2.225"  "4"    "12.22"   "3.694"
##                      "-2.226"  "0"    "5.8"     "2.605"
##                      "-2.227"  "0"    "5.64"    "2.533"
##                      "-2.227"  "0"    "5.1"     "2.29"
##                      "-2.228"  "18"   "30.38"   "5.556"
##                      "-2.229"  "0"    "3.56"    "1.597"
##                      "-2.229"  "0"    "4.52"    "2.027"
```

```
##                    "-2.23"   "1"    "6.76"    "2.582"
##                    "-2.231"  "6"    "14.11"   "3.635"
##                    "-2.231"  "13"   "24.63"   "5.214"
##                    "-2.232"  "24"   "37.39"   "5.998"
##                    "-2.232"  "1"    "6.1"     "2.285"
##                    "-2.233"  "2"    "7.88"    "2.633"
##                    "-2.233"  "0"    "5.73"    "2.566"
##                    "-2.233"  "0"    "6.35"    "2.844"
##                    "-2.233"  "4"    "12.22"   "3.681"
##                    "-2.234"  "374"  "430.47"  "25.281"
##                    "-2.234"  "0"    "4.55"    "2.037"
##                    "-2.234"  "1"    "8.19"    "3.218"
##                    "-2.234"  "6"    "13.3"    "3.268"
##                    "-2.235"  "0"    "4.89"    "2.188"
##                    "-2.235"  "8"    "17.32"   "4.17"
##                    "-2.235"  "2"    "7.39"    "2.412"
##                    "-2.236"  "18"   "29.98"   "5.358"
##                    "-2.236"  "1"    "6.58"    "2.495"
##                    "-2.239"  "3"    "10"      "3.127"
##                    "-2.24"   "136"  "165.13"  "13.002"
##                    "-2.24"   "4"    "10.61"   "2.95"
##                    "-2.24"   "6"    "14.27"   "3.692"
##                    "-2.24"   "3"    "9.91"    "3.085"
##                    "-2.241"  "3"    "11.17"   "3.646"
##                    "-2.242"  "0"    "5.25"    "2.341"
##                    "-2.242"  "0"    "4.93"    "2.199"
##                    "-2.243"  "0"    "5.02"    "2.238"
##                    "-2.243"  "1"    "6.29"    "2.358"
##                    "-2.243"  "0"    "4.38"    "1.953"
##                    "-2.243"  "31"   "44.2"    "5.886"
##                    "-2.243"  "3"    "8.92"    "2.639"
##                    "-2.244"  "0"    "5.51"    "2.456"
##                    "-2.245"  "4"    "11.01"   "3.122"
##                    "-2.247"  "0"    "4.5"     "2.003"
##                    "-2.247"  "104"  "126.23"  "9.893"
##                    "-2.247"  "3"    "10.76"   "3.453"
##                    "-2.247"  "3"    "10.56"   "3.364"
##                    "-2.248"  "15"   "27.04"   "5.356"
##                    "-2.248"  "54"   "72.81"   "8.367"
##                    "-2.248"  "4"    "10.77"   "3.011"
##                    "-2.249"  "0"    "3.48"    "1.547"
##                    "-2.249"  "3"    "9.76"    "3.005"
##                    "-2.25"   "0"    "3.64"    "1.618"
##                    "-2.25"   "0"    "4.19"    "1.862"
##                    "-2.251"  "0"    "3.95"    "1.755"
##                    "-2.251"  "0"    "3.95"    "1.755"
##                    "-2.251"  "0"    "3.95"    "1.755"
##                    "-2.252"  "33"   "46.48"   "5.986"
##                    "-2.252"  "5"    "11.13"   "2.722"
##                    "-2.253"  "0"    "5.8"     "2.574"
##                    "-2.253"  "0"    "4.39"    "1.948"
##                    "-2.253"  "0"    "5.32"    "2.361"
##                    "-2.254"  "5"    "12.47"   "3.313"
##                    "-2.254"  "46"   "62.69"   "7.404"
```

```
##                      "-2.255"  "3"    "9.28"    "2.786"
##                      "-2.255"  "2"    "7.37"    "2.381"
##                      "-2.257"  "5"    "12.58"   "3.358"
##                      "-2.258"  "3"    "8.83"    "2.582"
##                      "-2.258"  "3"    "8.83"    "2.582"
##                      "-2.258"  "0"    "4.51"    "1.997"
##                      "-2.258"  "26"   "37.98"   "5.307"
##                      "-2.258"  "12"   "21.11"   "4.035"
##                      "-2.258"  "0"    "4.51"    "1.997"
##                      "-2.258"  "3"    "8.83"    "2.582"
##                      "-2.258"  "3"    "8.83"    "2.582"
##                      "-2.259"  "43"   "62.13"   "8.468"
##                      "-2.259"  "4"    "10.92"   "3.064"
##                      "-2.259"  "0"    "5.18"    "2.294"
##                      "-2.26"   "0"    "5.69"    "2.517"
##                      "-2.261"  "0"    "4.9"     "2.167"
##                      "-2.262"  "0"    "3.57"    "1.578"
##                      "-2.262"  "1"    "7.56"    "2.9"
##                      "-2.263"  "0"    "5.15"    "2.276"
##                      "-2.264"  "1"    "6.09"    "2.248"
##                      "-2.264"  "3"    "10.78"   "3.437"
##                      "-2.265"  "10"   "20.58"   "4.671"
##                      "-2.265"  "1"    "7.01"    "2.653"
##                      "-2.266"  "0"    "4.9"     "2.163"
##                      "-2.268"  "3"    "9.93"    "3.056"
##                      "-2.27"   "0"    "5.48"    "2.414"
##                      "-2.27"   "6"    "14.85"   "3.899"
##                      "-2.27"   "1"    "6.84"    "2.573"
##                      "-2.27"   "6"    "15.46"   "4.167"
##                      "-2.27"   "22"   "34.92"   "5.692"
##                      "-2.271"  "0"    "4.79"    "2.11"
##                      "-2.273"  "8"    "17.39"   "4.131"
##                      "-2.273"  "4"    "11.55"   "3.322"
##                      "-2.274"  "0"    "5.43"    "2.388"
##                      "-2.274"  "8"    "15.54"   "3.316"
##                      "-2.275"  "8"    "16.66"   "3.806"
##                      "-2.275"  "0"    "5.04"    "2.215"
##                      "-2.275"  "0"    "6.51"    "2.862"
##                      "-2.276"  "1"    "7.22"    "2.732"
##                      "-2.277"  "0"    "4.1"     "1.801"
##                      "-2.277"  "1"    "7.38"    "2.803"
##                      "-2.278"  "13"   "24.08"   "4.863"
##                      "-2.278"  "560"  "615.43"  "24.336"
##                      "-2.28"   "1"    "6.37"    "2.356"
##                      "-2.281"  "6"    "14.16"   "3.578"
##                      "-2.282"  "3"    "10.54"   "3.304"
##                      "-2.283"  "6"    "15.06"   "3.969"
##                      "-2.283"  "0"    "4.65"    "2.037"
##                      "-2.285"  "5"    "11.36"   "2.784"
##                      "-2.286"  "8"    "17.4"    "4.112"
##                      "-2.286"  "5"    "12.02"   "3.071"
##                      "-2.287"  "86"   "115.41"  "12.861"
##                      "-2.287"  "0"    "5.23"    "2.287"
##                      "-2.288"  "1"    "6.38"    "2.352"
```

```
##                     "-2.288"  "26"    "42.12"   "7.044"
##                     "-2.289"  "0"     "6.51"    "2.844"
##                     "-2.291"  "9"     "18.64"   "4.208"
##                     "-2.291"  "14"    "24.57"   "4.613"
##                     "-2.291"  "10"    "19.72"   "4.243"
##                     "-2.292"  "70"    "95.38"   "11.073"
##                     "-2.292"  "210"   "248.04"  "16.594"
##                     "-2.292"  "0"     "4.74"    "2.068"
##                     "-2.293"  "0"     "5.22"    "2.277"
##                     "-2.293"  "0"     "4.51"    "1.967"
##                     "-2.294"  "9"     "19.9"    "4.751"
##                     "-2.296"  "0"     "4.39"    "1.912"
##                     "-2.296"  "74"    "95.1"    "9.189"
##                     "-2.298"  "5"     "12.2"    "3.133"
##                     "-2.298"  "0"     "4.46"    "1.941"
##                     "-2.299"  "0"     "5.33"    "2.318"
##                     "-2.3"    "2"     "9.48"    "3.252"
##                     "-2.301"  "0"     "5.92"    "2.573"
##                     "-2.302"  "5"     "12.34"   "3.188"
##                     "-2.302"  "3"     "10.33"   "3.185"
##                     "-2.302"  "0"     "6.01"    "2.611"
##                     "-2.303"  "3"     "9.26"    "2.718"
##                     "-2.303"  "1"     "6.67"    "2.462"
##                     "-2.304"  "5"     "11.59"   "2.861"
##                     "-2.304"  "5"     "11.59"   "2.861"
##                     "-2.304"  "5"     "11.59"   "2.861"
##                     "-2.304"  "5"     "11.59"   "2.861"
##                     "-2.306"  "0"     "4.58"    "1.986"
##                     "-2.306"  "22"    "36.02"   "6.08"
##                     "-2.306"  "0"     "4.5"     "1.951"
##                     "-2.307"  "1"     "6.97"    "2.588"
##                     "-2.308"  "3"     "9.49"    "2.812"
##                     "-2.309"  "11"    "19.94"   "3.871"
##                     "-2.309"  "0"     "6.37"    "2.758"
##                     "-2.309"  "0"     "5.32"    "2.304"
##                     "-2.31"   "3"     "10.44"   "3.22"
##                     "-2.311"  "14"    "25.37"   "4.921"
##                     "-2.311"  "0"     "7.53"    "3.258"
##                     "-2.312"  "1"     "7.19"    "2.677"
##                     "-2.313"  "2"     "9.1"     "3.07"
##                     "-2.314"  "10"    "19.28"   "4.01"
##                     "-2.314"  "0"     "4.13"    "1.785"
##                     "-2.315"  "25"    "37.46"   "5.383"
##                     "-2.315"  "4"     "10.11"   "2.64"
##                     "-2.315"  "115"   "139.71"  "10.674"
##                     "-2.316"  "3"     "11.32"   "3.593"
##                     "-2.317"  "0"     "4.87"    "2.102"
##                     "-2.317"  "22"    "32.99"   "4.743"
##                     "-2.318"  "76"    "98.72"   "9.803"
##                     "-2.318"  "1"     "6.66"    "2.442"
##                     "-2.319"  "2"     "8.79"    "2.928"
##                     "-2.32"   "0"     "4.92"    "2.121"
##                     "-2.32"   "0"     "4.44"    "1.914"
##                     "-2.321"  "0"     "5.05"    "2.176"
```

```
##                     "-2.322"  "0"    "4.53"    "1.951"
##                     "-2.322"  "0"    "4.87"    "2.097"
##                     "-2.322"  "0"    "3.96"    "1.705"
##                     "-2.323"  "0"    "4.46"    "1.92"
##                     "-2.324"  "4"    "11.19"   "3.093"
##                     "-2.324"  "12"   "21.88"   "4.25"
##                     "-2.324"  "32"   "47.64"   "6.729"
##                     "-2.325"  "6"    "13.39"   "3.178"
##                     "-2.325"  "109"  "134.19"  "10.835"
##                     "-2.328"  "2"    "7.56"    "2.388"
##                     "-2.328"  "3"    "12.91"   "4.257"
##                     "-2.329"  "81"   "106.53"  "10.963"
##                     "-2.329"  "8"    "17.44"   "4.053"
##                     "-2.329"  "1"    "6.42"    "2.328"
##                     "-2.329"  "21"   "36.24"   "6.543"
##                     "-2.329"  "2"    "8.8"     "2.92"
##                     "-2.329"  "5"    "13.15"   "3.5"
##                     "-2.33"   "0"    "2.96"    "1.271"
##                     "-2.33"   "8"    "16.98"   "3.853"
##                     "-2.331"  "0"    "4.3"     "1.845"
##                     "-2.331"  "0"    "5.76"    "2.471"
##                     "-2.332"  "1"    "6.54"    "2.376"
##                     "-2.333"  "6"    "13.55"   "3.236"
##                     "-2.333"  "0"    "4.19"    "1.796"
##                     "-2.333"  "2"    "8.95"    "2.979"
##                     "-2.333"  "0"    "4.19"    "1.796"
##                     "-2.334"  "3"    "10.62"   "3.265"
##                     "-2.334"  "1"    "6.88"    "2.52"
##                     "-2.334"  "3"    "10.64"   "3.274"
##                     "-2.335"  "0"    "5.62"    "2.407"
##                     "-2.335"  "4"    "10.96"   "2.981"
##                     "-2.339"  "4"    "10.73"   "2.877"
##                     "-2.339"  "0"    "5.02"    "2.146"
##                     "-2.34"   "0"    "4.27"    "1.825"
##                     "-2.341"  "0"    "5.18"    "2.213"
##                     "-2.342"  "0"    "4.6"     "1.964"
##                     "-2.342"  "16"   "26.96"   "4.679"
##                     "-2.343"  "7"    "15.28"   "3.534"
##                     "-2.343"  "2"    "9.11"    "3.035"
##                     "-2.344"  "0"    "4.94"    "2.107"
##                     "-2.346"  "78"   "102.88"  "10.607"
##                     "-2.347"  "1"    "8.53"    "3.208"
##                     "-2.347"  "6"    "15.53"   "4.061"
##                     "-2.348"  "0"    "5.5"     "2.342"
##                     "-2.348"  "0"    "5.08"    "2.163"
##                     "-2.35"   "2"    "9.84"    "3.336"
##                     "-2.351"  "24"   "37.08"   "5.564"
##                     "-2.351"  "28"   "44.22"   "6.9"
##                     "-2.352"  "0"    "4.89"    "2.079"
##                     "-2.352"  "3"    "10.26"   "3.087"
##                     "-2.352"  "0"    "6.45"    "2.743"
##                     "-2.353"  "0"    "3.35"    "1.424"
##                     "-2.354"  "2"    "8.23"    "2.647"
##                     "-2.354"  "0"    "4.23"    "1.797"
```

```
##                    "-2.354"  "9"   "17.78"  "3.73"
##                    "-2.355"  "27"  "42.07"  "6.398"
##                    "-2.355"  "6"   "16.02"  "4.254"
##                    "-2.356"  "0"   "5.4"    "2.292"
##                    "-2.356"  "22"  "35.71"  "5.819"
##                    "-2.358"  "10"  "20.39"  "4.406"
##                    "-2.359"  "72"  "97.03"  "10.609"
##                    "-2.361"  "1"   "6.74"   "2.431"
##                    "-2.361"  "0"   "6.22"   "2.635"
##                    "-2.361"  "9"   "20.54"  "4.887"
##                    "-2.363"  "0"   "3.79"   "1.604"
##                    "-2.365"  "2"   "8.75"   "2.855"
##                    "-2.365"  "24"  "38.35"  "6.068"
##                    "-2.366"  "5"   "12.53"  "3.183"
##                    "-2.366"  "3"   "11.43"  "3.563"
##                    "-2.368"  "3"   "11.65"  "3.653"
##                    "-2.368"  "1"   "7.54"   "2.761"
##                    "-2.368"  "2"   "9.29"   "3.079"
##                    "-2.368"  "0"   "4.47"   "1.888"
##                    "-2.368"  "0"   "4.47"   "1.888"
##                    "-2.369"  "0"   "4.96"   "2.093"
##                    "-2.37"   "6"   "14.53"  "3.6"
##                    "-2.371"  "0"   "4.33"   "1.826"
##                    "-2.371"  "2"   "9.07"   "2.982"
##                    "-2.371"  "19"  "32.67"  "5.767"
##                    "-2.373"  "62"  "83.28"  "8.966"
##                    "-2.373"  "19"  "31"     "5.057"
##                    "-2.374"  "4"   "13.25"  "3.896"
##                    "-2.374"  "0"   "5.65"   "2.38"
##                    "-2.374"  "5"   "13.96"  "3.774"
##                    "-2.375"  "2"   "8.94"   "2.923"
##                    "-2.375"  "0"   "4.43"   "1.865"
##                    "-2.375"  "3"   "11.2"   "3.452"
##                    "-2.376"  "3"   "11.04"  "3.384"
##                    "-2.377"  "3"   "10.99"  "3.362"
##                    "-2.377"  "0"   "3.99"   "1.679"
##                    "-2.378"  "42"  "56.49"  "6.093"
##                    "-2.379"  "0"   "4.92"   "2.068"
##                    "-2.379"  "19"  "34.38"  "6.465"
##                    "-2.381"  "22"  "34.3"   "5.165"
##                    "-2.383"  "0"   "4.91"   "2.06"
##                    "-2.383"  "0"   "4.56"   "1.914"
##                    "-2.384"  "3"   "11.02"  "3.363"
##                    "-2.384"  "21"  "35.84"  "6.224"
##                    "-2.385"  "0"   "5.74"   "2.406"
##                    "-2.385"  "2"   "8.22"   "2.608"
##                    "-2.385"  "9"   "17.31"  "3.484"
##                    "-2.386"  "0"   "5.44"   "2.28"
##                    "-2.386"  "0"   "4.38"   "1.836"
##                    "-2.386"  "4"   "10.82"  "2.858"
##                    "-2.387"  "27"  "41.61"  "6.121"
##                    "-2.388"  "4"   "12.11"  "3.396"
##                    "-2.389"  "0"   "6.57"   "2.75"
##                    "-2.389"  "5"   "13.17"  "3.42"
```

```
##                    "-2.39"   "6"    "13.71"  "3.226"
##                    "-2.39"   "54"   "72.45"  "7.719"
##                    "-2.39"   "0"    "6.02"   "2.519"
##                    "-2.391"  "5"    "12.9"   "3.304"
##                    "-2.393"  "76"   "99.83"  "9.96"
##                    "-2.393"  "5"    "12.19"  "3.004"
##                    "-2.396"  "0"    "4.72"   "1.97"
##                    "-2.396"  "3"    "10.4"   "3.088"
##                    "-2.396"  "0"    "4.67"   "1.949"
##                    "-2.397"  "15"   "28.02"  "5.433"
##                    "-2.398"  "33"   "46.63"  "5.683"
##                    "-2.398"  "12"   "23.21"  "4.674"
##                    "-2.4"    "0"    "5.83"   "2.429"
##                    "-2.4"    "0"    "5.12"   "2.133"
##                    "-2.4"    "19"   "32.37"  "5.57"
##                    "-2.401"  "0"    "6.16"   "2.565"
##                    "-2.401"  "3"    "9.75"   "2.812"
##                    "-2.402"  "21"   "35.58"  "6.069"
##                    "-2.402"  "1"    "6.6"    "2.331"
##                    "-2.404"  "0"    "7.32"   "3.045"
##                    "-2.405"  "2"    "8.65"   "2.765"
##                    "-2.406"  "1"    "6.92"   "2.461"
##                    "-2.408"  "3"    "11.44"  "3.506"
##                    "-2.409"  "0"    "4.66"   "1.934"
##                    "-2.41"   "0"    "5.94"   "2.465"
##                    "-2.41"   "7"    "17.1"   "4.191"
##                    "-2.411"  "0"    "6.48"   "2.687"
##                    "-2.411"  "0"    "5.59"   "2.319"
##                    "-2.412"  "6"    "14.08"  "3.351"
##                    "-2.412"  "0"    "5.2"    "2.156"
##                    "-2.412"  "16"   "28.03"  "4.988"
##                    "-2.413"  "8"    "20.1"   "5.014"
##                    "-2.414"  "0"    "5.92"   "2.452"
##                    "-2.414"  "13"   "24.28"  "4.673"
##                    "-2.415"  "6"    "16.17"  "4.212"
##                    "-2.415"  "40"   "52.41"  "5.139"
##                    "-2.416"  "0"    "6.8"    "2.814"
##                    "-2.416"  "3"    "9.75"   "2.794"
##                    "-2.416"  "0"    "4.13"   "1.709"
##                    "-2.416"  "9"    "19.85"  "4.491"
##                    "-2.416"  "0"    "4.13"   "1.709"
##                    "-2.418"  "3"    "11.75"  "3.619"
##                    "-2.418"  "15"   "27.11"  "5.009"
##                    "-2.421"  "3"    "10.18"  "2.966"
##                    "-2.421"  "14"   "25.65"  "4.812"
##                    "-2.423"  "15"   "28.35"  "5.509"
##                    "-2.423"  "4"    "12.03"  "3.313"
##                    "-2.423"  "0"    "5.28"   "2.179"
##                    "-2.424"  "2"    "9.91"   "3.263"
##                    "-2.424"  "35"   "52.44"  "7.196"
##                    "-2.425"  "1"    "8.31"   "3.014"
##                    "-2.425"  "3"    "10.57"  "3.121"
##                    "-2.427"  "4"    "12.9"   "3.667"
##                    "-2.428"  "45"   "60.93"  "6.56"
```

```
##                    "-2.428"  "0"    "5.2"     "2.141"
##                    "-2.429"  "1"    "7.27"    "2.581"
##                    "-2.43"   "0"    "4.86"    "2"
##                    "-2.43"   "2"    "9.03"    "2.894"
##                    "-2.431"  "5"    "14.74"   "4.007"
##                    "-2.431"  "3"    "10.68"   "3.159"
##                    "-2.432"  "0"    "4.88"    "2.006"
##                    "-2.432"  "0"    "4.35"    "1.789"
##                    "-2.432"  "18"   "31.93"   "5.728"
##                    "-2.432"  "33"   "48.79"   "6.492"
##                    "-2.433"  "49"   "67.83"   "7.741"
##                    "-2.433"  "2"    "9.51"    "3.086"
##                    "-2.433"  "0"    "5.39"    "2.215"
##                    "-2.434"  "0"    "4.97"    "2.042"
##                    "-2.434"  "21"   "34.67"   "5.616"
##                    "-2.435"  "0"    "4.39"    "1.803"
##                    "-2.439"  "1"    "7.03"    "2.472"
##                    "-2.44"   "0"    "5.51"    "2.259"
##                    "-2.44"   "10"   "22.34"   "5.058"
##                    "-2.441"  "11"   "22.02"   "4.515"
##                    "-2.441"  "1"    "6.78"    "2.368"
##                    "-2.442"  "1"    "7.49"    "2.657"
##                    "-2.442"  "1"    "8.88"    "3.226"
##                    "-2.443"  "8"    "18.38"   "4.249"
##                    "-2.443"  "3"    "10.87"   "3.221"
##                    "-2.443"  "2"    "9.39"    "3.025"
##                    "-2.443"  "2"    "9.39"    "3.025"
##                    "-2.444"  "0"    "6.53"    "2.672"
##                    "-2.444"  "8"    "18.01"   "4.096"
##                    "-2.445"  "2"    "9.21"    "2.948"
##                    "-2.445"  "1"    "7.02"    "2.462"
##                    "-2.445"  "118"  "145.29"  "11.159"
##                    "-2.445"  "3"    "9.46"    "2.642"
##                    "-2.446"  "82"   "107.49"  "10.419"
##                    "-2.446"  "1"    "6.96"    "2.437"
##                    "-2.446"  "0"    "5.15"    "2.105"
##                    "-2.446"  "19"   "33.16"   "5.789"
##                    "-2.446"  "1"    "6.96"    "2.437"
##                    "-2.446"  "0"    "5.15"    "2.105"
##                    "-2.446"  "9"    "18.87"   "4.034"
##                    "-2.446"  "1"    "6.96"    "2.437"
##                    "-2.446"  "1"    "6.96"    "2.437"
##                    "-2.446"  "1"    "6.96"    "2.437"
##                    "-2.446"  "1"    "6.96"    "2.437"
##                    "-2.446"  "1"    "6.96"    "2.437"
##                    "-2.446"  "1"    "6.96"    "2.437"
##                    "-2.448"  "6"    "14.96"   "3.66"
##                    "-2.448"  "0"    "6.32"    "2.582"
##                    "-2.451"  "4"    "13.19"   "3.749"
##                    "-2.452"  "5"    "13.49"   "3.463"
##                    "-2.452"  "14"   "29.97"   "6.513"
##                    "-2.453"  "0"    "4.98"    "2.03"
##                    "-2.454"  "33"   "49.84"   "6.862"
##                    "-2.455"  "33"   "49.86"   "6.867"
```

```
##                    "-2.457"  "19"   "31.84"   "5.226"
##                    "-2.458"  "7"    "18.14"   "4.533"
##                    "-2.459"  "45"   "63.22"   "7.411"
##                    "-2.46"   "0"    "6.39"    "2.597"
##                    "-2.46"   "1"    "6.38"    "2.187"
##                    "-2.46"   "10"   "22.49"   "5.078"
##                    "-2.46"   "6"    "13.97"   "3.239"
##                    "-2.461"  "9"    "18.01"   "3.661"
##                    "-2.462"  "1"    "6.88"    "2.388"
##                    "-2.465"  "0"    "6.07"    "2.463"
##                    "-2.465"  "132"  "158.65"  "10.812"
##                    "-2.465"  "1"    "7.65"    "2.698"
##                    "-2.466"  "38"   "56.18"   "7.374"
##                    "-2.467"  "109"  "139.72"  "12.454"
##                    "-2.467"  "0"    "7.37"    "2.987"
##                    "-2.467"  "15"   "27.07"   "4.893"
##                    "-2.468"  "33"   "50.07"   "6.915"
##                    "-2.468"  "88"   "117.31"  "11.875"
##                    "-2.468"  "0"    "4.86"    "1.97"
##                    "-2.469"  "0"    "5.97"    "2.418"
##                    "-2.469"  "0"    "5.75"    "2.328"
##                    "-2.47"   "0"    "6.02"    "2.437"
##                    "-2.471"  "0"    "6.06"    "2.453"
##                    "-2.471"  "0"    "5.88"    "2.38"
##                    "-2.475"  "3"    "9.78"    "2.74"
##                    "-2.476"  "11"   "23.5"    "5.048"
##                    "-2.476"  "4"    "11.46"   "3.013"
##                    "-2.477"  "0"    "5.37"    "2.168"
##                    "-2.48"   "1"    "8.21"    "2.907"
##                    "-2.482"  "1"    "7.49"    "2.615"
##                    "-2.483"  "27"   "44.3"    "6.968"
##                    "-2.483"  "4"    "12.7"    "3.503"
##                    "-2.485"  "70"   "93.92"   "9.626"
##                    "-2.486"  "0"    "6.09"    "2.45"
##                    "-2.489"  "147"  "175.77"  "11.557"
##                    "-2.489"  "6"    "16.22"   "4.106"
##                    "-2.491"  "1"    "5.82"    "1.935"
##                    "-2.492"  "0"    "6.72"    "2.697"
##                    "-2.494"  "5"    "15.31"   "4.133"
##                    "-2.496"  "0"    "5.39"    "2.16"
##                    "-2.496"  "6"    "15.66"   "3.87"
##                    "-2.496"  "2"    "9.01"    "2.809"
##                    "-2.496"  "4"    "11.53"   "3.017"
##                    "-2.499"  "64"   "87.03"   "9.217"
##                    "-2.5"    "33"   "50.09"   "6.837"
##                    "-2.5"    "73"   "96.07"   "9.227"
##                    "-2.5"    "1"    "7.08"    "2.432"
##                    "-2.501"  "3"    "10.81"   "3.123"
##                    "-2.502"  "2"    "10.78"   "3.509"
##                    "-2.502"  "9"    "19.55"   "4.217"
##                    "-2.503"  "10"   "19.87"   "3.943"
##                    "-2.503"  "2"    "9.7"     "3.076"
##                    "-2.504"  "6"    "14.58"   "3.427"
##                    "-2.505"  "97"   "127.23"  "12.068"
```

```
##                    "-2.505"  "0"    "6.88"    "2.746"
##                    "-2.506"  "15"   "27.58"   "5.02"
##                    "-2.508"  "73"   "98.49"   "10.162"
##                    "-2.509"  "15"   "28.79"   "5.496"
##                    "-2.51"   "21"   "34.89"   "5.534"
##                    "-2.511"  "0"    "6.09"    "2.425"
##                    "-2.511"  "6"    "15.57"   "3.812"
##                    "-2.511"  "4"    "12.51"   "3.389"
##                    "-2.512"  "1"    "7.67"    "2.655"
##                    "-2.513"  "3"    "11.58"   "3.415"
##                    "-2.513"  "0"    "5.76"    "2.292"
##                    "-2.514"  "1"    "9.15"    "3.242"
##                    "-2.516"  "5"    "13.17"   "3.248"
##                    "-2.517"  "5"    "14.51"   "3.778"
##                    "-2.518"  "8"    "18.41"   "4.134"
##                    "-2.52"   "3"    "11.03"   "3.186"
##                    "-2.52"   "3"    "10.21"   "2.861"
##                    "-2.523"  "3"    "11.78"   "3.48"
##                    "-2.524"  "5"    "13.06"   "3.193"
##                    "-2.524"  "13"   "24.97"   "4.743"
##                    "-2.524"  "1"    "8.61"    "3.015"
##                    "-2.524"  "25"   "40.68"   "6.213"
##                    "-2.524"  "7"    "16.97"   "3.95"
##                    "-2.525"  "0"    "6.41"    "2.539"
##                    "-2.525"  "0"    "6.25"    "2.476"
##                    "-2.526"  "911"  "995.16"  "33.311"
##                    "-2.527"  "6"    "17.53"   "4.563"
##                    "-2.528"  "6"    "16.23"   "4.047"
##                    "-2.529"  "0"    "5.43"    "2.147"
##                    "-2.529"  "28"   "42.42"   "5.702"
##                    "-2.529"  "1"    "7.6"     "2.609"
##                    "-2.529"  "12"   "25.94"   "5.512"
##                    "-2.53"   "0"    "7.47"    "2.952"
##                    "-2.532"  "6"    "16.33"   "4.08"
##                    "-2.532"  "2"    "9.22"    "2.852"
##                    "-2.532"  "0"    "5.95"    "2.35"
##                    "-2.533"  "1"    "6.49"    "2.167"
##                    "-2.534"  "1"    "6.99"    "2.363"
##                    "-2.537"  "4"    "13.59"   "3.78"
##                    "-2.537"  "3"    "11.24"   "3.248"
##                    "-2.54"   "11"   "23.56"   "4.945"
##                    "-2.541"  "33"   "50.84"   "7.022"
##                    "-2.541"  "1"    "7.29"    "2.475"
##                    "-2.543"  "0"    "6.69"    "2.631"
##                    "-2.543"  "3"    "11.93"   "3.511"
##                    "-2.544"  "3"    "11.13"   "3.196"
##                    "-2.545"  "0"    "7.12"    "2.797"
##                    "-2.545"  "1"    "8.59"    "2.982"
##                    "-2.545"  "1"    "6.43"    "2.133"
##                    "-2.546"  "21"   "35.77"   "5.801"
##                    "-2.548"  "9"    "21.2"    "4.788"
##                    "-2.548"  "7"    "18.03"   "4.329"
##                    "-2.549"  "0"    "6.61"    "2.593"
##                    "-2.552"  "20"   "33.42"   "5.259"
```

```
##                "-2.552"  "22"   "39.69"   "6.932"
##                "-2.553"  "16"   "31.77"   "6.177"
##                "-2.554"  "53"   "75.05"   "8.634"
##                "-2.554"  "0"    "4.92"    "1.926"
##                "-2.554"  "3"    "11.27"   "3.238"
##                "-2.556"  "10"   "20.37"   "4.057"
##                "-2.556"  "0"    "6.07"    "2.375"
##                "-2.557"  "93"   "120.18"  "10.629"
##                "-2.557"  "0"    "6.68"    "2.613"
##                "-2.558"  "1"    "7.99"    "2.732"
##                "-2.558"  "0"    "6.5"     "2.541"
##                "-2.559"  "8"    "19.62"   "4.541"
##                "-2.559"  "13"   "25.2"    "4.767"
##                "-2.559"  "13"   "24.08"   "4.329"
##                "-2.559"  "0"    "5.63"    "2.2"
##                "-2.559"  "17"   "28.74"   "4.587"
##                "-2.56"   "1"    "8.63"    "2.98"
##                "-2.563"  "2"    "10.64"   "3.371"
##                "-2.563"  "33"   "50.91"   "6.988"
##                "-2.564"  "16"   "30.95"   "5.832"
##                "-2.564"  "93"   "118.5"   "9.945"
##                "-2.565"  "10"   "22.25"   "4.777"
##                "-2.565"  "0"    "5.98"    "2.331"
##                "-2.566"  "33"   "53.68"   "8.06"
##                "-2.567"  "13"   "24.3"    "4.403"
##                "-2.567"  "151"  "188.2"   "14.493"
##                "-2.567"  "0"    "6.56"    "2.556"
##                "-2.567"  "3"    "10.96"   "3.101"
##                "-2.567"  "0"    "6.56"    "2.556"
##                "-2.567"  "0"    "6.56"    "2.556"
##                "-2.567"  "0"    "6.56"    "2.556"
##                "-2.569"  "8"    "19.79"   "4.589"
##                "-2.569"  "10"   "21.35"   "4.418"
##                "-2.569"  "1"    "8.24"    "2.818"
##                "-2.57"   "1"    "8.68"    "2.988"
##                "-2.57"   "5"    "14.02"   "3.51"
##                "-2.57"   "0"    "4.7"     "1.829"
##                "-2.57"   "1"    "8.7"     "2.997"
##                "-2.57"   "0"    "5.95"    "2.315"
##                "-2.572"  "0"    "4.95"    "1.925"
##                "-2.572"  "51"   "73.78"   "8.858"
##                "-2.573"  "0"    "5.77"    "2.242"
##                "-2.574"  "46"   "64.44"   "7.165"
##                "-2.575"  "0"    "6.85"    "2.661"
##                "-2.575"  "2"    "8.56"    "2.548"
##                "-2.576"  "11"   "23.36"   "4.798"
##                "-2.577"  "65"   "88.33"   "9.052"
##                "-2.578"  "4"    "14.02"   "3.887"
##                "-2.578"  "28"   "45.89"   "6.938"
##                "-2.578"  "192"  "234.55"  "16.503"
##                "-2.579"  "52"   "72.23"   "7.846"
##                "-2.579"  "20"   "34.38"   "5.576"
##                "-2.579"  "6"    "16.12"   "3.924"
##                "-2.58"   "5"    "14.53"   "3.694"
```

```
##                     "-2.581"  "0"   "5.28"    "2.045"
##                     "-2.581"  "3"   "11.48"   "3.286"
##                     "-2.581"  "7"   "17.62"   "4.114"
##                     "-2.581"  "4"   "12.1"    "3.138"
##                     "-2.582"  "21"  "36.39"   "5.961"
##                     "-2.583"  "17"  "32.62"   "6.047"
##                     "-2.583"  "4"   "12.19"   "3.171"
##                     "-2.583"  "13"  "25.91"   "4.997"
##                     "-2.583"  "0"   "5.91"    "2.288"
##                     "-2.584"  "1"   "8.82"    "3.026"
##                     "-2.586"  "2"   "11.05"   "3.5"
##                     "-2.587"  "0"   "5.22"    "2.018"
##                     "-2.587"  "5"   "14.5"    "3.672"
##                     "-2.588"  "2"   "9.55"    "2.918"
##                     "-2.588"  "1"   "7.94"    "2.681"
##                     "-2.589"  "14"  "27.58"   "5.246"
##                     "-2.593"  "53"  "74.02"   "8.108"
##                     "-2.593"  "0"   "8.48"    "3.271"
##                     "-2.594"  "1"   "7.83"    "2.633"
##                     "-2.594"  "0"   "6.93"    "2.671"
##                     "-2.594"  "1"   "8.61"    "2.933"
##                     "-2.595"  "1"   "7.56"    "2.528"
##                     "-2.596"  "6"   "15.82"   "3.783"
##                     "-2.596"  "1"   "7.68"    "2.574"
##                     "-2.596"  "2"   "10.2"    "3.159"
##                     "-2.596"  "2"   "10.2"    "3.159"
##                     "-2.596"  "2"   "10.2"    "3.159"
##                     "-2.596"  "4"   "12.69"   "3.348"
##                     "-2.597"  "6"   "15.83"   "3.785"
##                     "-2.598"  "3"   "11.05"   "3.099"
##                     "-2.599"  "63"  "84.1"    "8.118"
##                     "-2.6"    "0"   "7.46"    "2.869"
##                     "-2.6"    "0"   "6.81"    "2.62"
##                     "-2.602"  "1"   "7.2"     "2.383"
##                     "-2.603"  "1"   "8.12"    "2.735"
##                     "-2.603"  "0"   "5.61"    "2.155"
##                     "-2.603"  "0"   "5.94"    "2.282"
##                     "-2.604"  "31"  "46.42"   "5.921"
##                     "-2.606"  "0"   "5.85"    "2.245"
##                     "-2.606"  "0"   "5.85"    "2.245"
##                     "-2.607"  "0"   "7.77"    "2.981"
##                     "-2.608"  "0"   "5.68"    "2.178"
##                     "-2.609"  "4"   "14.36"   "3.971"
##                     "-2.611"  "0"   "6.77"    "2.593"
##                     "-2.611"  "0"   "6.77"    "2.593"
##                     "-2.613"  "0"   "5.45"    "2.086"
##                     "-2.613"  "7"   "16.71"   "3.715"
##                     "-2.615"  "80"  "104.29"  "9.288"
##                     "-2.615"  "4"   "12.56"   "3.273"
##                     "-2.616"  "0"   "5.78"    "2.209"
##                     "-2.616"  "0"   "6.56"    "2.508"
##                     "-2.617"  "8"   "18.61"   "4.055"
##                     "-2.622"  "2"   "10.67"   "3.306"
##                     "-2.624"  "2"   "10.03"   "3.06"
```

```
##                     "-2.625"   "0"     "5.92"     "2.255"
##                     "-2.627"   "2"     "11.84"    "3.746"
##                     "-2.628"   "73"    "95.64"    "8.615"
##                     "-2.628"   "7"     "19.26"    "4.666"
##                     "-2.629"   "3"     "12.3"     "3.538"
##                     "-2.629"   "15"    "29.62"    "5.561"
##                     "-2.63"    "10"    "22.08"    "4.594"
##                     "-2.631"   "12"    "24.66"    "4.812"
##                     "-2.632"   "0"     "6.44"     "2.447"
##                     "-2.633"   "4"     "14.09"    "3.833"
##                     "-2.633"   "3"     "11.65"    "3.286"
##                     "-2.635"   "0"     "6.65"     "2.524"
##                     "-2.635"   "101"   "127.95"   "10.228"
##                     "-2.636"   "1"     "8.63"     "2.894"
##                     "-2.636"   "0"     "6.15"     "2.333"
##                     "-2.637"   "27"    "44.62"    "6.681"
##                     "-2.638"   "5"     "15.25"    "3.886"
##                     "-2.64"    "3"     "10.58"    "2.872"
##                     "-2.64"    "9"     "20.83"    "4.481"
##                     "-2.642"   "23"    "38.55"    "5.885"
##                     "-2.642"   "62"    "83.76"    "8.235"
##                     "-2.642"   "0"     "6.92"     "2.62"
##                     "-2.642"   "0"     "6.92"     "2.62"
##                     "-2.642"   "0"     "6.92"     "2.62"
##                     "-2.645"   "5"     "14.64"    "3.645"
##                     "-2.649"   "64"    "86.34"    "8.432"
##                     "-2.649"   "5"     "14.52"    "3.594"
##                     "-2.649"   "2"     "9.99"     "3.017"
##                     "-2.65"    "37"    "55.67"    "7.045"
##                     "-2.65"    "5"     "15.41"    "3.929"
##                     "-2.652"   "0"     "9"        "3.393"
##                     "-2.653"   "1"     "10.04"    "3.408"
##                     "-2.653"   "6"     "14.27"    "3.117"
##                     "-2.656"   "0"     "5.54"     "2.086"
##                     "-2.658"   "13"    "27.22"    "5.35"
##                     "-2.658"   "7"     "15.35"    "3.141"
##                     "-2.658"   "2"     "9.67"     "2.885"
##                     "-2.659"   "9"     "21"       "4.513"
##                     "-2.659"   "51"    "74.27"    "8.751"
##                     "-2.66"    "368"   "419.87"   "19.503"
##                     "-2.662"   "3"     "12"       "3.381"
##                     "-2.662"   "0"     "6.8"      "2.554"
##                     "-2.662"   "0"     "6.8"      "2.554"
##                     "-2.664"   "9"     "20.56"    "4.34"
##                     "-2.665"   "0"     "6.99"     "2.623"
##                     "-2.666"   "5"     "16.6"     "4.351"
##                     "-2.667"   "1"     "9.38"     "3.142"
##                     "-2.668"   "1"     "9.59"     "3.22"
##                     "-2.67"    "7"     "17.01"    "3.748"
##                     "-2.671"   "112"   "141.48"   "11.036"
##                     "-2.671"   "6"     "13.31"    "2.737"
##                     "-2.671"   "19"    "34.95"    "5.972"
##                     "-2.671"   "30"    "48.75"    "7.019"
##                     "-2.672"   "0"     "5.78"     "2.163"
```

```
##                      "-2.672"  "0"    "5.78"    "2.163"
##                      "-2.672"  "1"    "7.61"    "2.474"
##                      "-2.672"  "1"    "7.61"    "2.474"
##                      "-2.672"  "1"    "7.61"    "2.474"
##                      "-2.672"  "1"    "7.61"    "2.474"
##                      "-2.672"  "0"    "5.78"    "2.163"
##                      "-2.673"  "0"    "4.67"    "1.747"
##                      "-2.673"  "1"    "8.12"    "2.664"
##                      "-2.673"  "0"    "7.17"    "2.682"
##                      "-2.674"  "19"   "33.92"   "5.579"
##                      "-2.675"  "4"    "12.21"   "3.069"
##                      "-2.675"  "1"    "7.69"    "2.501"
##                      "-2.676"  "0"    "5.97"    "2.231"
##                      "-2.677"  "10"   "19.47"   "3.538"
##                      "-2.677"  "7"    "17.09"   "3.769"
##                      "-2.678"  "105"  "133.94"  "10.806"
##                      "-2.678"  "125"  "158.98"  "12.687"
##                      "-2.679"  "2"    "11.5"    "3.546"
##                      "-2.679"  "2"    "10.55"   "3.192"
##                      "-2.679"  "0"    "7.75"    "2.893"
##                      "-2.679"  "144"  "179.95"  "13.418"
##                      "-2.681"  "1"    "7.99"    "2.607"
##                      "-2.683"  "11"   "24.58"   "5.062"
##                      "-2.683"  "1"    "10.17"   "3.417"
##                      "-2.683"  "6"    "16.07"   "3.753"
##                      "-2.684"  "0"    "6.25"    "2.328"
##                      "-2.684"  "6"    "15.86"   "3.674"
##                      "-2.685"  "1"    "8.75"    "2.886"
##                      "-2.686"  "18"   "33.26"   "5.681"
##                      "-2.687"  "0"    "5.28"    "1.965"
##                      "-2.687"  "1"    "8.8"     "2.902"
##                      "-2.688"  "0"    "6.38"    "2.373"
##                      "-2.689"  "1"    "7.71"    "2.496"
##                      "-2.689"  "3"    "11.49"   "3.157"
##                      "-2.69"   "3"    "9.95"    "2.583"
##                      "-2.69"   "1"    "10.09"   "3.379"
##                      "-2.69"   "3"    "9.95"    "2.583"
##                      "-2.691"  "5"    "15.25"   "3.81"
##                      "-2.692"  "153"  "186.69"  "12.514"
##                      "-2.692"  "140"  "174.48"  "12.81"
##                      "-2.692"  "0"    "5.97"    "2.218"
##                      "-2.692"  "4"    "13.06"   "3.366"
##                      "-2.694"  "0"    "8.24"    "3.059"
##                      "-2.694"  "6"    "16.74"   "3.986"
##                      "-2.695"  "0"    "7.28"    "2.701"
##                      "-2.695"  "1"    "7.62"    "2.457"
##                      "-2.695"  "0"    "7.24"    "2.686"
##                      "-2.696"  "0"    "5.66"    "2.1"
##                      "-2.696"  "61"   "83.96"   "8.517"
##                      "-2.697"  "0"    "6"       "2.225"
##                      "-2.697"  "0"    "5.97"    "2.213"
##                      "-2.699"  "3"    "12.88"   "3.661"
##                      "-2.702"  "6"    "17.42"   "4.226"
##                      "-2.702"  "1"    "8.86"    "2.909"
```

```
##                    "-2.704"  "16"   "28.81"   "4.737"
##                    "-2.706"  "0"    "7.63"    "2.82"
##                    "-2.708"  "3"    "11.93"   "3.298"
##                    "-2.708"  "0"    "5.58"    "2.061"
##                    "-2.709"  "2"    "9.82"    "2.886"
##                    "-2.709"  "25"   "40.7"    "5.795"
##                    "-2.71"   "207"  "248.63"  "15.362"
##                    "-2.712"  "0"    "7.61"    "2.807"
##                    "-2.712"  "0"    "7.61"    "2.807"
##                    "-2.712"  "0"    "7.61"    "2.807"
##                    "-2.713"  "1"    "7.66"    "2.455"
##                    "-2.714"  "5"    "14.59"   "3.534"
##                    "-2.715"  "5"    "15.92"   "4.022"
##                    "-2.715"  "3"    "12.38"   "3.455"
##                    "-2.716"  "2"    "10.69"   "3.199"
##                    "-2.717"  "0"    "7.43"    "2.735"
##                    "-2.718"  "2"    "11.44"   "3.474"
##                    "-2.72"   "2"    "11.38"   "3.449"
##                    "-2.722"  "0"    "6.32"    "2.322"
##                    "-2.723"  "0"    "7.48"    "2.747"
##                    "-2.724"  "0"    "6.46"    "2.372"
##                    "-2.726"  "4"    "12.98"   "3.294"
##                    "-2.727"  "4"    "14.23"   "3.752"
##                    "-2.727"  "4"    "14.23"   "3.752"
##                    "-2.727"  "0"    "7.49"    "2.747"
##                    "-2.728"  "1"    "8.84"    "2.873"
##                    "-2.728"  "1"    "8.84"    "2.873"
##                    "-2.728"  "7"    "16.6"    "3.519"
##                    "-2.728"  "1"    "8.84"    "2.873"
##                    "-2.728"  "1"    "8.84"    "2.873"
##                    "-2.729"  "2"    "8.72"    "2.462"
##                    "-2.729"  "3"    "11.4"    "3.078"
##                    "-2.729"  "9"    "19.32"   "3.782"
##                    "-2.729"  "5"    "15.52"   "3.855"
##                    "-2.731"  "1"    "8.04"    "2.578"
##                    "-2.732"  "6"    "15.65"   "3.532"
##                    "-2.734"  "16"   "32.91"   "6.184"
##                    "-2.735"  "4"    "11.84"   "2.866"
##                    "-2.738"  "9"    "19.19"   "3.722"
##                    "-2.738"  "1"    "9.26"    "3.017"
##                    "-2.741"  "143"  "174.33"  "11.431"
##                    "-2.741"  "1"    "9.38"    "3.058"
##                    "-2.741"  "1"    "8.86"    "2.868"
##                    "-2.742"  "9"    "20.63"   "4.242"
##                    "-2.742"  "15"   "26.68"   "4.259"
##                    "-2.745"  "5"    "14.92"   "3.614"
##                    "-2.745"  "3"    "11.01"   "2.918"
##                    "-2.746"  "14"   "27.06"   "4.756"
##                    "-2.747"  "6"    "18.28"   "4.47"
##                    "-2.747"  "1"    "11.6"    "3.859"
##                    "-2.748"  "0"    "8.23"    "2.994"
##                    "-2.748"  "1"    "7.53"    "2.376"
##                    "-2.748"  "1"    "7.84"    "2.489"
##                    "-2.748"  "39"   "58.08"   "6.942"
```

```
##                        "-2.748"  "4"    "15.03"   "4.014"
##                        "-2.751"  "6"    "16.64"   "3.868"
##                        "-2.754"  "0"    "7.24"    "2.629"
##                        "-2.754"  "0"    "6"       "2.179"
##                        "-2.754"  "2"    "10.56"   "3.109"
##                        "-2.754"  "3"    "10.36"   "2.672"
##                        "-2.755"  "0"    "6.31"    "2.29"
##                        "-2.755"  "0"    "8.63"    "3.132"
##                        "-2.755"  "4"    "11.81"   "2.834"
##                        "-2.757"  "3"    "10.72"   "2.8"
##                        "-2.757"  "25"   "40.61"   "5.662"
##                        "-2.758"  "12"   "25.45"   "4.877"
##                        "-2.758"  "2"    "10.92"   "3.234"
##                        "-2.76"   "12"   "26.59"   "5.286"
##                        "-2.76"   "113"  "147.07"  "12.343"
##                        "-2.762"  "39"   "57.74"   "6.785"
##                        "-2.762"  "1"    "8.63"    "2.762"
##                        "-2.764"  "2"    "9.01"    "2.537"
##                        "-2.766"  "1"    "8"       "2.531"
##                        "-2.766"  "3"    "14.02"   "3.985"
##                        "-2.767"  "11"   "25.17"   "5.121"
##                        "-2.767"  "4"    "14.61"   "3.835"
##                        "-2.767"  "0"    "6.48"    "2.342"
##                        "-2.768"  "2"    "11.71"   "3.508"
##                        "-2.768"  "5"    "13.98"   "3.244"
##                        "-2.769"  "3"    "13.14"   "3.663"
##                        "-2.769"  "1"    "8.37"    "2.662"
##                        "-2.769"  "1"    "8.37"    "2.662"
##                        "-2.769"  "1"    "8.37"    "2.662"
##                        "-2.77"   "0"    "7.27"    "2.624"
##                        "-2.771"  "8"    "20.27"   "4.429"
##                        "-2.775"  "1"    "8.97"    "2.873"
##                        "-2.776"  "5"    "15.51"   "3.786"
##                        "-2.777"  "0"    "9.46"    "3.407"
##                        "-2.78"   "1"    "8.68"    "2.763"
##                        "-2.781"  "0"    "5.94"    "2.136"
##                        "-2.781"  "3"    "12.54"   "3.43"
##                        "-2.782"  "296"  "344.03"  "17.262"
##                        "-2.782"  "2"    "12.83"   "3.893"
##                        "-2.784"  "22"   "40.17"   "6.526"
##                        "-2.784"  "0"    "7.47"    "2.683"
##                        "-2.787"  "115"  "146.91"  "11.45"
##                        "-2.787"  "1"    "8.3"     "2.619"
##                        "-2.788"  "1"    "10.75"   "3.497"
##                        "-2.789"  "11"   "22.54"   "4.138"
##                        "-2.79"   "0"    "8.58"    "3.075"
##                        "-2.791"  "1"    "8.57"    "2.713"
##                        "-2.792"  "2"    "10.61"   "3.084"
##                        "-2.792"  "1"    "10.16"   "3.281"
##                        "-2.792"  "1"    "10.39"   "3.363"
##                        "-2.793"  "1"    "7.26"    "2.241"
##                        "-2.796"  "2"    "11.72"   "3.476"
##                        "-2.796"  "16"   "30.98"   "5.358"
##                        "-2.796"  "4"    "12.51"   "3.043"
```

```
##                    "-2.797" "5"    "17.1"   "4.326"
##                    "-2.797" "2"    "11.36"  "3.347"
##                    "-2.799" "0"    "8.51"   "3.04"
##                    "-2.8"   "139"  "177.9"  "13.895"
##                    "-2.802" "1"    "10.05"  "3.23"
##                    "-2.802" "5"    "15.41"  "3.715"
##                    "-2.802" "3"    "11.86"  "3.162"
##                    "-2.802" "9"    "21.41"  "4.429"
##                    "-2.803" "2"    "10.34"  "2.975"
##                    "-2.803" "0"    "7.91"   "2.822"
##                    "-2.803" "0"    "6.88"   "2.455"
##                    "-2.806" "8"    "22.08"  "5.019"
##                    "-2.809" "132"  "168.71" "13.067"
##                    "-2.809" "0"    "6.8"    "2.42"
##                    "-2.809" "1"    "8.16"   "2.549"
##                    "-2.811" "0"    "7"      "2.49"
##                    "-2.811" "49"   "72.52"  "8.368"
##                    "-2.811" "7"    "19.13"  "4.315"
##                    "-2.811" "8"    "20.68"  "4.51"
##                    "-2.814" "0"    "7.91"   "2.811"
##                    "-2.814" "48"   "69.3"   "7.57"
##                    "-2.816" "30"   "46.5"   "5.859"
##                    "-2.818" "3"    "14.29"  "4.006"
##                    "-2.82"  "7"    "19.55"  "4.45"
##                    "-2.82"  "18"   "32.38"  "5.099"
##                    "-2.82"  "0"    "6.29"   "2.231"
##                    "-2.822" "14"   "27.2"   "4.677"
##                    "-2.823" "2"    "11.5"   "3.365"
##                    "-2.823" "9"    "21.91"  "4.573"
##                    "-2.824" "0"    "10.32"  "3.654"
##                    "-2.824" "13"   "28.18"  "5.376"
##                    "-2.824" "0"    "6.32"   "2.238"
##                    "-2.824" "5"    "15.37"  "3.673"
##                    "-2.827" "24"   "43.47"  "6.888"
##                    "-2.828" "9"    "21.98"  "4.59"
##                    "-2.829" "7"    "17.52"  "3.719"
##                    "-2.831" "0"    "8.55"   "3.02"
##                    "-2.832" "79"   "109.05" "10.612"
##                    "-2.832" "0"    "6.77"   "2.39"
##                    "-2.833" "11"   "23.68"  "4.476"
##                    "-2.834" "0"    "8.05"   "2.84"
##                    "-2.835" "0"    "6.16"   "2.173"
##                    "-2.836" "2"    "13.09"  "3.911"
##                    "-2.837" "0"    "5.93"   "2.09"
##                    "-2.84"  "0"    "6.65"   "2.341"
##                    "-2.84"  "1"    "9.91"   "3.137"
##                    "-2.842" "0"    "6.27"   "2.206"
##                    "-2.842" "0"    "9.46"   "3.329"
##                    "-2.842" "1"    "7.37"   "2.241"
##                    "-2.844" "2"    "9.94"   "2.792"
##                    "-2.845" "0"    "7.99"   "2.809"
##                    "-2.845" "6"    "17.86"  "4.168"
##                    "-2.845" "40"   "59.81"  "6.963"
##                    "-2.846" "8"    "21.61"  "4.782"
```

```
##                    "-2.846"   "4"     "18"       "4.92"
##                    "-2.847"   "4"     "13.51"    "3.341"
##                    "-2.849"   "11"    "24.26"    "4.655"
##                    "-2.849"   "0"     "8.49"     "2.98"
##                    "-2.85"    "20"    "37.51"    "6.144"
##                    "-2.85"    "0"     "6.12"     "2.147"
##                    "-2.852"   "14"    "28.91"    "5.228"
##                    "-2.853"   "1"     "9.52"     "2.986"
##                    "-2.854"   "1"     "9.13"     "2.849"
##                    "-2.854"   "11"    "25.64"    "5.13"
##                    "-2.856"   "2"     "13.61"    "4.065"
##                    "-2.856"   "2"     "13.61"    "4.065"
##                    "-2.857"   "44"    "67.22"    "8.128"
##                    "-2.857"   "9"     "24.07"    "5.275"
##                    "-2.858"   "0"     "8.18"     "2.862"
##                    "-2.858"   "24"    "39.65"    "5.476"
##                    "-2.859"   "6"     "16.11"    "3.536"
##                    "-2.859"   "2"     "13.44"    "4.001"
##                    "-2.859"   "0"     "8.46"     "2.959"
##                    "-2.862"   "0"     "7.12"     "2.487"
##                    "-2.863"   "0"     "6.6"      "2.305"
##                    "-2.863"   "0"     "6.6"      "2.305"
##                    "-2.863"   "2"     "10.53"    "2.98"
##                    "-2.864"   "13"    "29.29"    "5.688"
##                    "-2.865"   "21"    "36.67"    "5.47"
##                    "-2.865"   "2"     "10.6"     "3.002"
##                    "-2.865"   "1"     "10.52"    "3.323"
##                    "-2.866"   "17"    "35.7"     "6.525"
##                    "-2.867"   "1"     "8.52"     "2.623"
##                    "-2.869"   "2"     "11.27"    "3.231"
##                    "-2.869"   "49"    "69.68"    "7.208"
##                    "-2.87"    "17"    "33.26"    "5.665"
##                    "-2.873"   "0"     "8.43"     "2.934"
##                    "-2.873"   "154"   "190.85"   "12.828"
##                    "-2.874"   "2"     "11.27"    "3.225"
##                    "-2.874"   "18"    "31.19"    "4.59"
##                    "-2.875"   "9"     "21.03"    "4.184"
##                    "-2.875"   "11"    "25.3"     "4.974"
##                    "-2.875"   "12"    "26.46"    "5.03"
##                    "-2.879"   "5"     "15.46"    "3.633"
##                    "-2.88"    "0"     "8.02"     "2.785"
##                    "-2.881"   "4"     "14.62"    "3.687"
##                    "-2.882"   "2"     "11.48"    "3.289"
##                    "-2.883"   "6"     "17.29"    "3.917"
##                    "-2.885"   "8"     "21.79"    "4.781"
##                    "-2.885"   "5"     "14.7"     "3.362"
##                    "-2.887"   "2"     "11"       "3.117"
##                    "-2.887"   "10"    "26.5"     "5.715"
##                    "-2.888"   "1"     "9.12"     "2.812"
##                    "-2.889"   "1"     "10.74"    "3.371"
##                    "-2.889"   "9"     "20.87"    "4.109"
##                    "-2.89"    "1"     "9.29"     "2.868"
##                    "-2.891"   "1"     "12.5"     "3.978"
##                    "-2.892"   "11"    "24.87"    "4.796"
```

```
##                    "-2.893"  "2"    "10.45"   "2.921"
##                    "-2.893"  "0"    "8.22"    "2.841"
##                    "-2.893"  "14"   "30.99"   "5.873"
##                    "-2.894"  "1"    "9.41"    "2.906"
##                    "-2.897"  "0"    "6.23"    "2.15"
##                    "-2.897"  "8"    "21.62"   "4.701"
##                    "-2.901"  "1"    "9.16"    "2.813"
##                    "-2.902"  "1"    "8.51"    "2.588"
##                    "-2.903"  "2"    "9.06"    "2.432"
##                    "-2.903"  "1"    "9.57"    "2.952"
##                    "-2.905"  "6"    "16.91"   "3.755"
##                    "-2.906"  "1"    "9.27"    "2.846"
##                    "-2.906"  "41"   "64.49"   "8.084"
##                    "-2.907"  "33"   "52.96"   "6.865"
##                    "-2.908"  "2"    "11.29"   "3.195"
##                    "-2.91"   "5"    "15.58"   "3.635"
##                    "-2.911"  "8"    "23.06"   "5.173"
##                    "-2.914"  "14"   "29.93"   "5.467"
##                    "-2.914"  "3"    "15.06"   "4.139"
##                    "-2.914"  "185"  "228.04"  "14.772"
##                    "-2.915"  "0"    "8.62"    "2.957"
##                    "-2.918"  "100"  "134.66"  "11.878"
##                    "-2.918"  "1"    "8.46"    "2.556"
##                    "-2.919"  "6"    "18.05"   "4.128"
##                    "-2.919"  "2"    "10.39"   "2.874"
##                    "-2.919"  "29"   "47.02"   "6.174"
##                    "-2.92"   "3"    "16.09"   "4.484"
##                    "-2.92"   "0"    "8.89"    "3.045"
##                    "-2.921"  "0"    "8.31"    "2.845"
##                    "-2.922"  "0"    "7.65"    "2.618"
##                    "-2.923"  "2"    "14.13"   "4.15"
##                    "-2.923"  "0"    "7.93"    "2.713"
##                    "-2.923"  "0"    "7.93"    "2.713"
##                    "-2.924"  "16"   "30.89"   "5.093"
##                    "-2.926"  "0"    "7.95"    "2.717"
##                    "-2.927"  "0"    "8.96"    "3.061"
##                    "-2.928"  "0"    "6.48"    "2.213"
##                    "-2.93"   "10"   "23.1"    "4.471"
##                    "-2.931"  "230"  "273.49"  "14.835"
##                    "-2.933"  "4"    "14.72"   "3.654"
##                    "-2.933"  "1"    "9.78"    "2.994"
##                    "-2.934"  "22"   "43.31"   "7.262"
##                    "-2.934"  "1"    "8.81"    "2.662"
##                    "-2.935"  "5"    "16.06"   "3.768"
##                    "-2.936"  "1"    "11.63"   "3.62"
##                    "-2.936"  "1"    "11.63"   "3.62"
##                    "-2.936"  "1"    "11.63"   "3.62"
##                    "-2.936"  "1"    "11.96"   "3.733"
##                    "-2.936"  "1"    "9.62"    "2.936"
##                    "-2.936"  "12"   "24.66"   "4.312"
##                    "-2.937"  "0"    "7.34"    "2.499"
##                    "-2.938"  "22"   "38.42"   "5.589"
##                    "-2.938"  "1"    "8.45"    "2.536"
##                    "-2.938"  "16"   "34.04"   "6.14"
```

```
##                    "-2.938"   "12"    "26.9"     "5.072"
##                    "-2.938"   "1"     "8.45"     "2.536"
##                    "-2.94"    "0"     "7.04"     "2.395"
##                    "-2.94"    "0"     "6.04"     "2.054"
##                    "-2.941"   "1"     "10.91"    "3.37"
##                    "-2.942"   "7"     "19.12"    "4.12"
##                    "-2.944"   "1"     "9.88"     "3.016"
##                    "-2.945"   "0"     "8.25"     "2.801"
##                    "-2.945"   "44"    "67.4"     "7.947"
##                    "-2.946"   "2"     "11.81"    "3.329"
##                    "-2.946"   "2"     "10.44"    "2.865"
##                    "-2.948"   "22"    "40.41"    "6.244"
##                    "-2.948"   "28"    "47.23"    "6.524"
##                    "-2.949"   "7"     "18.67"    "3.957"
##                    "-2.95"    "0"     "6.35"     "2.153"
##                    "-2.951"   "0"     "6.98"     "2.365"
##                    "-2.951"   "21"    "42.53"    "7.295"
##                    "-2.951"   "2"     "14.8"     "4.337"
##                    "-2.952"   "37"    "60.92"    "8.104"
##                    "-2.952"   "22"    "41.59"    "6.636"
##                    "-2.954"   "9"     "21.78"    "4.327"
##                    "-2.955"   "0"     "8.34"     "2.822"
##                    "-2.955"   "2"     "10.35"    "2.826"
##                    "-2.955"   "2"     "10.35"    "2.826"
##                    "-2.955"   "2"     "10.35"    "2.826"
##                    "-2.957"   "1"     "8.17"     "2.425"
##                    "-2.957"   "2"     "12.71"    "3.622"
##                    "-2.96"    "3"     "15.22"    "4.128"
##                    "-2.96"    "1"     "9.62"     "2.912"
##                    "-2.96"    "0"     "6.36"     "2.149"
##                    "-2.96"    "0"     "5.88"     "1.986"
##                    "-2.96"    "34"    "54.94"    "7.074"
##                    "-2.961"   "4"     "16.37"    "4.177"
##                    "-2.966"   "0"     "8.24"     "2.778"
##                    "-2.966"   "0"     "8.54"     "2.879"
##                    "-2.967"   "21"    "38.51"    "5.901"
##                    "-2.969"   "5"     "17.73"    "4.287"
##                    "-2.972"   "23"    "43.05"    "6.747"
##                    "-2.972"   "2"     "13.04"    "3.714"
##                    "-2.972"   "0"     "7.98"     "2.685"
##                    "-2.976"   "10"    "26.34"    "5.491"
##                    "-2.977"   "0"     "9.05"     "3.04"
##                    "-2.977"   "864"   "980.49"   "39.129"
##                    "-2.978"   "0"     "8.16"     "2.74"
##                    "-2.978"   "0"     "8.27"     "2.777"
##                    "-2.979"   "11"    "26.91"    "5.341"
##                    "-2.98"    "1"     "8.68"     "2.578"
##                    "-2.981"   "0"     "9.18"     "3.079"
##                    "-2.984"   "0"     "9.18"     "3.076"
##                    "-2.984"   "0"     "9.05"     "3.033"
##                    "-2.985"   "0"     "7.29"     "2.442"
##                    "-2.985"   "22"    "40.57"    "6.222"
##                    "-2.985"   "0"     "7.29"     "2.442"
##                    "-2.986"   "11"    "24.18"    "4.414"
```

```
##                     "-2.987"  "5"    "16.74"   "3.93"
##                     "-2.987"  "1"    "11.76"   "3.602"
##                     "-2.989"  "491"  "587.67"  "32.337"
##                     "-2.99"   "61"   "86.59"   "8.558"
##                     "-2.99"   "2"    "11.81"   "3.28"
##                     "-2.991"  "0"    "7.26"    "2.427"
##                     "-2.993"  "1"    "11.1"    "3.374"
##                     "-2.994"  "25"   "40.3"    "5.11"
##                     "-2.994"  "0"    "8.33"    "2.782"
##                     "-2.995"  "2"    "10.98"   "2.998"
##                     "-2.995"  "20"   "36.02"   "5.348"
##                     "-2.996"  "0"    "7.48"    "2.496"
##                     "-2.997"  "1"    "8.92"    "2.643"
##                     "-2.998"  "2"    "10.82"   "2.942"
##                     "-3.001"  "1"    "9.88"    "2.959"
##                     "-3.001"  "0"    "6.46"    "2.153"
##                     "-3.001"  "0"    "7.54"    "2.512"
##                     "-3.001"  "0"    "8.24"    "2.746"
##                     "-3.002"  "2"    "12.98"   "3.657"
##                     "-3.002"  "6"    "16.83"   "3.607"
##                     "-3.003"  "0"    "9.41"    "3.134"
##                     "-3.003"  "40"   "61.94"   "7.307"
##                     "-3.003"  "12"   "27.77"   "5.251"
##                     "-3.003"  "5"    "16.83"   "3.939"
##                     "-3.003"  "0"    "8.62"    "2.87"
##                     "-3.004"  "9"    "23.14"   "4.708"
##                     "-3.007"  "367"  "443.45"  "25.42"
##                     "-3.007"  "5"    "17.22"   "4.064"
##                     "-3.008"  "2"    "9.97"    "2.649"
##                     "-3.008"  "0"    "7.59"    "2.523"
##                     "-3.009"  "1"    "10.48"   "3.151"
##                     "-3.01"   "2"    "15.4"    "4.452"
##                     "-3.011"  "39"   "64.82"   "8.575"
##                     "-3.011"  "4"    "14.62"   "3.527"
##                     "-3.012"  "9"    "22.26"   "4.403"
##                     "-3.013"  "10"   "23.64"   "4.527"
##                     "-3.014"  "5"    "16.09"   "3.679"
##                     "-3.014"  "0"    "9.03"    "2.996"
##                     "-3.015"  "1"    "10.44"   "3.131"
##                     "-3.018"  "6"    "18.73"   "4.218"
##                     "-3.018"  "4"    "14.99"   "3.642"
##                     "-3.019"  "33"   "53.11"   "6.66"
##                     "-3.019"  "1"    "11.47"   "3.468"
##                     "-3.019"  "5"    "16.96"   "3.962"
##                     "-3.02"   "0"    "9.29"    "3.076"
##                     "-3.02"   "24"   "40.42"   "5.437"
##                     "-3.021"  "3"    "12.33"   "3.088"
##                     "-3.021"  "4"    "14.01"   "3.314"
##                     "-3.022"  "0"    "10.49"   "3.471"
##                     "-3.022"  "345"  "420.51"  "24.983"
##                     "-3.022"  "3"    "16.85"   "4.582"
##                     "-3.022"  "0"    "7.26"    "2.402"
##                     "-3.024"  "0"    "8.74"    "2.891"
##                     "-3.024"  "14"   "33.18"   "6.343"
```

```
##                      "-3.026"  "2"    "12.95"   "3.619"
##                      "-3.026"  "44"   "71.45"   "9.073"
##                      "-3.029"  "28"   "48.45"   "6.752"
##                      "-3.029"  "1"    "9.22"    "2.714"
##                      "-3.03"   "9"    "22.71"   "4.524"
##                      "-3.031"  "4"    "16.34"   "4.071"
##                      "-3.032"  "31"   "50.4"    "6.398"
##                      "-3.032"  "3"    "15.89"   "4.252"
##                      "-3.032"  "0"    "7.31"    "2.411"
##                      "-3.034"  "5"    "15.93"   "3.602"
##                      "-3.035"  "41"   "63.14"   "7.296"
##                      "-3.035"  "1"    "9.03"    "2.646"
##                      "-3.037"  "0"    "9.63"    "3.171"
##                      "-3.038"  "0"    "6.74"    "2.218"
##                      "-3.038"  "22"   "41.86"   "6.538"
##                      "-3.039"  "331"  "411.71"  "26.561"
##                      "-3.039"  "2"    "11.67"   "3.182"
##                      "-3.04"   "2"    "14.48"   "4.106"
##                      "-3.041"  "1"    "9.34"    "2.742"
##                      "-3.041"  "1"    "9.34"    "2.742"
##                      "-3.043"  "12"   "28.28"   "5.351"
##                      "-3.045"  "4"    "14.78"   "3.541"
##                      "-3.045"  "4"    "14.78"   "3.541"
##                      "-3.047"  "0"    "9.21"    "3.023"
##                      "-3.048"  "5"    "17.24"   "4.015"
##                      "-3.049"  "10"   "24.53"   "4.766"
##                      "-3.052"  "241"  "290.48"  "16.213"
##                      "-3.052"  "1"    "9.77"    "2.874"
##                      "-3.053"  "1"    "9.25"    "2.702"
##                      "-3.054"  "2"    "12.53"   "3.448"
##                      "-3.055"  "17"   "32.58"   "5.099"
##                      "-3.057"  "0"    "6.02"    "1.969"
##                      "-3.058"  "11"   "25.27"   "4.666"
##                      "-3.06"   "0"    "7.55"    "2.467"
##                      "-3.062"  "3"    "15.41"   "4.053"
##                      "-3.063"  "29"   "48.34"   "6.314"
##                      "-3.063"  "0"    "9.43"    "3.079"
##                      "-3.064"  "365"  "442.82"  "25.397"
##                      "-3.064"  "5"    "19.53"   "4.743"
##                      "-3.065"  "22"   "38.58"   "5.409"
##                      "-3.066"  "0"    "7.63"    "2.489"
##                      "-3.066"  "1"    "9.03"    "2.619"
##                      "-3.067"  "225"  "275.05"  "16.32"
##                      "-3.067"  "3"    "13.14"   "3.306"
##                      "-3.068"  "2"    "10.36"   "2.725"
##                      "-3.069"  "39"   "65.87"   "8.757"
##                      "-3.07"   "0"    "7.12"    "2.319"
##                      "-3.07"   "0"    "7.12"    "2.319"
##                      "-3.07"   "0"    "7.12"    "2.319"
##                      "-3.071"  "3"    "14.72"   "3.817"
##                      "-3.071"  "10"   "24.76"   "4.806"
##                      "-3.072"  "0"    "8.36"    "2.721"
##                      "-3.073"  "4"    "14.4"    "3.384"
##                      "-3.074"  "5"    "19.31"   "4.655"
```

```
##                    "-3.075"  "22"  "38.42"   "5.339"
##                    "-3.076"  "43"  "65.71"   "7.382"
##                    "-3.078"  "1"   "9.23"    "2.674"
##                    "-3.078"  "1"   "11.53"   "3.421"
##                    "-3.078"  "63"  "88.61"   "8.319"
##                    "-3.079"  "25"  "46.26"   "6.906"
##                    "-3.079"  "4"   "16.09"   "3.926"
##                    "-3.08"   "1"   "12.23"   "3.646"
##                    "-3.08"   "0"   "10.89"   "3.536"
##                    "-3.081"  "0"   "8.06"    "2.616"
##                    "-3.082"  "2"   "10.82"   "2.862"
##                    "-3.083"  "5"   "18.31"   "4.317"
##                    "-3.084"  "0"   "8.56"    "2.776"
##                    "-3.084"  "1"   "9.3"     "2.691"
##                    "-3.084"  "1"   "10.83"   "3.188"
##                    "-3.084"  "0"   "9.93"    "3.22"
##                    "-3.086"  "4"   "15.31"   "3.664"
##                    "-3.087"  "3"   "15.49"   "4.046"
##                    "-3.088"  "3"   "14.22"   "3.634"
##                    "-3.09"   "7"   "19.55"   "4.061"
##                    "-3.09"   "13"  "26.87"   "4.489"
##                    "-3.091"  "0"   "8.83"    "2.857"
##                    "-3.092"  "0"   "9.57"    "3.095"
##                    "-3.096"  "12"  "25.3"    "4.296"
##                    "-3.097"  "0"   "10.42"   "3.364"
##                    "-3.097"  "34"  "57.5"    "7.589"
##                    "-3.097"  "1"   "12.16"   "3.603"
##                    "-3.098"  "63"  "92.12"   "9.4"
##                    "-3.098"  "51"  "74.32"   "7.528"
##                    "-3.099"  "37"  "61.93"   "8.046"
##                    "-3.1"    "9"   "24.5"    "5"
##                    "-3.102"  "85"  "115.77"  "9.92"
##                    "-3.103"  "3"   "13.56"   "3.403"
##                    "-3.103"  "25"  "42.31"   "5.579"
##                    "-3.105"  "15"  "30.61"   "5.027"
##                    "-3.105"  "6"   "17.36"   "3.658"
##                    "-3.105"  "5"   "16.61"   "3.739"
##                    "-3.106"  "19"  "39.26"   "6.524"
##                    "-3.107"  "0"   "7.5"     "2.414"
##                    "-3.109"  "2"   "11.73"   "3.13"
##                    "-3.11"   "1"   "9.53"    "2.743"
##                    "-3.111"  "0"   "8.36"    "2.687"
##                    "-3.112"  "1"   "11.71"   "3.442"
##                    "-3.112"  "0"   "6.91"    "2.221"
##                    "-3.114"  "42"  "68.67"   "8.565"
##                    "-3.114"  "4"   "14.4"    "3.339"
##                    "-3.114"  "3"   "15.66"   "4.066"
##                    "-3.115"  "1"   "10.38"   "3.011"
##                    "-3.116"  "10"  "24.83"   "4.759"
##                    "-3.117"  "2"   "10.47"   "2.717"
##                    "-3.123"  "0"   "10.13"   "3.243"
##                    "-3.125"  "6"   "20.19"   "4.541"
##                    "-3.125"  "54"  "79.79"   "8.253"
##                    "-3.126"  "2"   "12.39"   "3.324"
```

```
##                   "-3.129"   "1"    "11.24"   "3.273"
##                   "-3.131"   "8"    "20.14"   "3.877"
##                   "-3.131"   "4"    "16.74"   "4.069"
##                   "-3.133"   "21"   "36.38"   "4.909"
##                   "-3.135"   "20"   "37.56"   "5.602"
##                   "-3.136"   "1"    "11.19"   "3.25"
##                   "-3.137"   "0"    "12.17"   "3.88"
##                   "-3.137"   "4"    "16.09"   "3.854"
##                   "-3.138"   "1"    "9.55"    "2.724"
##                   "-3.139"   "0"    "8.07"    "2.571"
##                   "-3.139"   "8"    "23.31"   "4.878"
##                   "-3.14"    "0"    "6.55"    "2.086"
##                   "-3.14"    "4"    "16.28"   "3.911"
##                   "-3.14"    "4"    "16.28"   "3.911"
##                   "-3.14"    "4"    "16.28"   "3.911"
##                   "-3.14"    "4"    "16.28"   "3.911"
##                   "-3.141"   "1"    "10.32"   "2.967"
##                   "-3.142"   "0"    "8.91"    "2.836"
##                   "-3.143"   "19"   "36.68"   "5.624"
##                   "-3.143"   "1"    "11.96"   "3.487"
##                   "-3.144"   "27"   "49.84"   "7.265"
##                   "-3.145"   "0"    "7.95"    "2.528"
##                   "-3.146"   "41"   "63.73"   "7.225"
##                   "-3.147"   "17"   "34.69"   "5.62"
##                   "-3.147"   "15"   "31.4"    "5.211"
##                   "-3.148"   "1"    "11.75"   "3.415"
##                   "-3.15"    "3"    "14.66"   "3.702"
##                   "-3.152"   "9"    "27.55"   "5.885"
##                   "-3.154"   "27"   "47.24"   "6.417"
##                   "-3.155"   "1"    "9.89"    "2.817"
##                   "-3.158"   "3"    "12.72"   "3.078"
##                   "-3.158"   "5"    "19.29"   "4.524"
##                   "-3.159"   "0"    "10.17"   "3.219"
##                   "-3.16"    "4"    "16.39"   "3.921"
##                   "-3.16"    "0"    "10.33"   "3.269"
##                   "-3.16"    "9"    "23.34"   "4.538"
##                   "-3.161"   "18"   "37.66"   "6.219"
##                   "-3.162"   "21"   "43.35"   "7.069"
##                   "-3.164"   "4"    "15.63"   "3.675"
##                   "-3.164"   "6"    "19.41"   "4.238"
##                   "-3.164"   "1"    "11.1"    "3.192"
##                   "-3.166"   "9"    "25.53"   "5.221"
##                   "-3.167"   "0"    "10.57"   "3.337"
##                   "-3.168"   "3"    "13.95"   "3.456"
##                   "-3.168"   "2"    "12.87"   "3.431"
##                   "-3.17"    "30"   "51.08"   "6.649"
##                   "-3.17"    "2"    "11.8"    "3.091"
##                   "-3.174"   "1"    "9.25"    "2.599"
##                   "-3.175"   "0"    "9.45"    "2.976"
##                   "-3.18"    "0"    "8.38"    "2.635"
##                   "-3.181"   "4"    "15.86"   "3.728"
##                   "-3.181"   "3"    "14.93"   "3.75"
##                   "-3.184"   "15"   "31.35"   "5.135"
##                   "-3.186"   "11"   "24.37"   "4.196"
```

```
##                      "-3.187"  "0"     "9.56"    "2.999"
##                      "-3.187"  "8"     "24.93"   "5.313"
##                      "-3.189"  "9"     "23.46"   "4.534"
##                      "-3.19"   "3"     "13.09"   "3.163"
##                      "-3.19"   "3"     "13.62"   "3.33"
##                      "-3.19"   "1"     "12.96"   "3.75"
##                      "-3.19"   "146"   "190.92"  "14.08"
##                      "-3.191"  "3"     "15.12"   "3.799"
##                      "-3.191"  "6"     "18.32"   "3.861"
##                      "-3.194"  "2"     "12.37"   "3.246"
##                      "-3.195"  "3"     "13.04"   "3.143"
##                      "-3.195"  "8"     "24.27"   "5.093"
##                      "-3.195"  "1"     "11.18"   "3.186"
##                      "-3.195"  "3"     "13.04"   "3.143"
##                      "-3.196"  "2"     "11.36"   "2.929"
##                      "-3.199"  "3"     "12.82"   "3.069"
##                      "-3.199"  "0"     "9.43"    "2.948"
##                      "-3.202"  "0"     "7.91"    "2.47"
##                      "-3.202"  "5"     "18.67"   "4.269"
##                      "-3.203"  "10"    "28.81"   "5.872"
##                      "-3.204"  "7"     "23.79"   "5.24"
##                      "-3.204"  "7"     "23.79"   "5.24"
##                      "-3.205"  "1"     "10.93"   "3.099"
##                      "-3.206"  "20"    "38.17"   "5.668"
##                      "-3.206"  "3"     "14.74"   "3.661"
##                      "-3.206"  "10"    "25.81"   "4.931"
##                      "-3.207"  "2"     "13.08"   "3.454"
##                      "-3.211"  "1"     "11.69"   "3.329"
##                      "-3.213"  "3"     "13.38"   "3.231"
##                      "-3.214"  "12"    "26.61"   "4.546"
##                      "-3.215"  "39"    "62.33"   "7.256"
##                      "-3.215"  "0"     "10"      "3.111"
##                      "-3.218"  "4"     "16.08"   "3.754"
##                      "-3.221"  "37"    "60.17"   "7.194"
##                      "-3.222"  "45"    "67.99"   "7.136"
##                      "-3.225"  "5"     "18.84"   "4.292"
##                      "-3.226"  "1"     "12.9"    "3.689"
##                      "-3.228"  "10"    "25.27"   "4.731"
##                      "-3.229"  "53"    "83.09"   "9.319"
##                      "-3.231"  "12"    "29.56"   "5.435"
##                      "-3.232"  "32"    "53.56"   "6.672"
##                      "-3.234"  "1"     "11.62"   "3.284"
##                      "-3.235"  "22"    "41.07"   "5.895"
##                      "-3.235"  "5"     "20.01"   "4.64"
##                      "-3.236"  "8"     "20.05"   "3.724"
##                      "-3.237"  "1"     "13.45"   "3.846"
##                      "-3.237"  "2"     "13.4"    "3.522"
##                      "-3.238"  "23"    "45.41"   "6.921"
##                      "-3.239"  "10"    "23.49"   "4.165"
##                      "-3.24"   "2"     "16.45"   "4.459"
##                      "-3.241"  "1"     "12.96"   "3.69"
##                      "-3.242"  "11"    "27.85"   "5.198"
##                      "-3.243"  "7"     "19.02"   "3.706"
##                      "-3.244"  "92"    "128.63"  "11.291"
```

```
##                     "-3.247"  "27"    "47.37"   "6.274"
##                     "-3.249"  "24"    "44.3"    "6.248"
##                     "-3.25"   "0"     "8.1"     "2.492"
##                     "-3.251"  "6"     "18.87"   "3.959"
##                     "-3.253"  "424"   "500.15"  "23.412"
##                     "-3.255"  "0"     "11.61"   "3.567"
##                     "-3.256"  "99"    "132.52"  "10.294"
##                     "-3.257"  "5"     "18.02"   "3.997"
##                     "-3.258"  "2"     "13.67"   "3.582"
##                     "-3.259"  "56"    "85.99"   "9.201"
##                     "-3.26"   "171"   "215.59"  "13.676"
##                     "-3.261"  "1"     "11.68"   "3.275"
##                     "-3.262"  "8"     "24.59"   "5.085"
##                     "-3.263"  "0"     "8.58"    "2.629"
##                     "-3.265"  "5"     "19.81"   "4.536"
##                     "-3.266"  "44"    "72.79"   "8.815"
##                     "-3.266"  "4"     "18.25"   "4.363"
##                     "-3.269"  "5"     "17.35"   "3.778"
##                     "-3.269"  "0"     "10.39"   "3.178"
##                     "-3.273"  "0"     "9.56"    "2.921"
##                     "-3.273"  "3"     "14.35"   "3.468"
##                     "-3.274"  "9"     "25.08"   "4.911"
##                     "-3.275"  "0"     "11.94"   "3.645"
##                     "-3.276"  "4"     "16.4"    "3.785"
##                     "-3.277"  "2"     "15"      "3.967"
##                     "-3.278"  "8"     "23.93"   "4.86"
##                     "-3.278"  "27"    "49.99"   "7.013"
##                     "-3.279"  "1"     "11.66"   "3.251"
##                     "-3.28"   "47"    "71.43"   "7.447"
##                     "-3.281"  "9"     "23.72"   "4.486"
##                     "-3.283"  "4"     "17.69"   "4.17"
##                     "-3.285"  "38"    "62.45"   "7.442"
##                     "-3.286"  "24"    "43.88"   "6.049"
##                     "-3.287"  "83"    "119.82"  "11.203"
##                     "-3.288"  "1"     "15.33"   "4.358"
##                     "-3.288"  "8"     "20.5"    "3.802"
##                     "-3.291"  "2"     "11.5"    "2.887"
##                     "-3.294"  "5"     "18.73"   "4.168"
##                     "-3.294"  "4"     "17.61"   "4.131"
##                     "-3.294"  "5"     "18.79"   "4.186"
##                     "-3.295"  "4"     "16.43"   "3.772"
##                     "-3.296"  "25"    "44.05"   "5.779"
##                     "-3.297"  "4"     "15.52"   "3.495"
##                     "-3.3"    "7"     "22.75"   "4.772"
##                     "-3.3"    "0"     "8.21"    "2.488"
##                     "-3.3"    "1"     "9.92"    "2.703"
##                     "-3.3"    "3"     "15.44"   "3.769"
##                     "-3.301"  "19"    "37.92"   "5.731"
##                     "-3.304"  "0"     "11.98"   "3.626"
##                     "-3.305"  "47"    "73.75"   "8.093"
##                     "-3.305"  "2"     "13.05"   "3.344"
##                     "-3.307"  "12"    "30.72"   "5.661"
##                     "-3.308"  "2"     "13.71"   "3.54"
##                     "-3.309"  "1"     "11.4"    "3.143"
```

```
##                     "-3.309"   "7"     "21.65"    "4.428"
##                     "-3.309"   "18"    "39.02"    "6.352"
##                     "-3.309"   "88"    "120.47"   "9.812"
##                     "-3.309"   "1"     "11.4"     "3.143"
##                     "-3.31"    "0"     "10.07"    "3.043"
##                     "-3.31"    "81"    "111.73"   "9.283"
##                     "-3.31"    "8"     "26.95"    "5.725"
##                     "-3.311"   "36"    "58.6"     "6.825"
##                     "-3.311"   "2"     "12.78"    "3.255"
##                     "-3.311"   "5"     "15.95"    "3.307"
##                     "-3.313"   "0"     "10.34"    "3.121"
##                     "-3.313"   "7"     "20.48"    "4.069"
##                     "-3.313"   "3"     "18.28"    "4.612"
##                     "-3.314"   "46"    "72.24"    "7.919"
##                     "-3.314"   "6"     "20.28"    "4.309"
##                     "-3.315"   "0"     "7.8"      "2.353"
##                     "-3.316"   "5"     "18.5"     "4.071"
##                     "-3.319"   "2"     "11.03"    "2.721"
##                     "-3.32"    "1"     "10.91"    "2.985"
##                     "-3.321"   "0"     "10.78"    "3.246"
##                     "-3.323"   "2"     "13.97"    "3.603"
##                     "-3.326"   "38"    "63.26"    "7.594"
##                     "-3.328"   "0"     "7.79"     "2.341"
##                     "-3.329"   "1"     "10.27"    "2.785"
##                     "-3.329"   "1"     "11.19"    "3.061"
##                     "-3.331"   "2"     "13.82"    "3.549"
##                     "-3.334"   "3"     "14.26"    "3.377"
##                     "-3.336"   "1"     "15.28"    "4.281"
##                     "-3.337"   "7"     "21.02"    "4.202"
##                     "-3.338"   "0"     "8.66"     "2.595"
##                     "-3.338"   "3"     "15.76"    "3.822"
##                     "-3.34"    "166"   "211.95"   "13.757"
##                     "-3.341"   "3"     "13.45"    "3.128"
##                     "-3.341"   "15"    "33.1"     "5.417"
##                     "-3.342"   "31"    "56.37"    "7.591"
##                     "-3.342"   "4"     "16.31"    "3.684"
##                     "-3.342"   "48"    "78.39"    "9.093"
##                     "-3.346"   "94"    "130.44"   "10.891"
##                     "-3.346"   "1"     "10.94"    "2.971"
##                     "-3.35"    "0"     "9.94"     "2.967"
##                     "-3.351"   "5"     "19.7"     "4.387"
##                     "-3.351"   "4"     "17.5"     "4.029"
##                     "-3.352"   "1"     "11.01"    "2.986"
##                     "-3.352"   "1"     "11.62"    "3.168"
##                     "-3.353"   "2"     "12.42"    "3.108"
##                     "-3.357"   "0"     "7.39"     "2.201"
##                     "-3.36"    "53"    "80.41"    "8.159"
##                     "-3.361"   "4"     "16.46"    "3.708"
##                     "-3.361"   "0"     "11.47"    "3.413"
##                     "-3.362"   "8"     "22.97"    "4.453"
##                     "-3.364"   "8"     "23.59"    "4.634"
##                     "-3.365"   "0"     "10.76"    "3.198"
##                     "-3.366"   "0"     "9.24"     "2.746"
##                     "-3.367"   "21"    "40.89"    "5.907"
```

```
##                     "-3.368"  "2"     "13.04"    "3.278"
##                     "-3.37"   "1"     "12.95"    "3.546"
##                     "-3.371"  "2"     "14.33"    "3.657"
##                     "-3.372"  "2"     "14.3"     "3.647"
##                     "-3.375"  "1"     "12.88"    "3.52"
##                     "-3.377"  "12"    "26.71"    "4.356"
##                     "-3.38"   "11"    "26.82"    "4.68"
##                     "-3.38"   "0"     "7.74"     "2.29"
##                     "-3.383"  "0"     "11.29"    "3.337"
##                     "-3.384"  "1"     "11.93"    "3.229"
##                     "-3.385"  "0"     "9.86"     "2.913"
##                     "-3.39"   "6"     "18.91"    "3.809"
##                     "-3.39"   "17"    "36.98"    "5.893"
##                     "-3.391"  "5"     "16.12"    "3.279"
##                     "-3.391"  "1"     "13.57"    "3.707"
##                     "-3.393"  "15"    "32.46"    "5.145"
##                     "-3.395"  "4"     "17.17"    "3.88"
##                     "-3.397"  "2"     "14.64"    "3.721"
##                     "-3.398"  "79"    "110.99"   "9.415"
##                     "-3.399"  "1"     "12.52"    "3.389"
##                     "-3.403"  "14"    "33.78"    "5.813"
##                     "-3.403"  "13"    "32.46"    "5.718"
##                     "-3.403"  "4"     "19.35"    "4.511"
##                     "-3.405"  "3"     "17"       "4.112"
##                     "-3.405"  "13"    "30.45"    "5.125"
##                     "-3.408"  "24"    "43.34"    "5.675"
##                     "-3.409"  "3"     "14.21"    "3.288"
##                     "-3.41"   "1"     "12.69"    "3.428"
##                     "-3.41"   "7"     "21.95"    "4.384"
##                     "-3.411"  "15"    "34.06"    "5.588"
##                     "-3.414"  "14"    "31.16"    "5.027"
##                     "-3.416"  "0"     "11.43"    "3.346"
##                     "-3.419"  "34"    "60.13"    "7.642"
##                     "-3.419"  "14"    "34.12"    "5.885"
##                     "-3.419"  "2"     "12.29"    "3.009"
##                     "-3.419"  "2"     "16.41"    "4.214"
##                     "-3.42"   "1"     "11.44"    "3.053"
##                     "-3.42"   "8"     "24.79"    "4.91"
##                     "-3.421"  "4"     "15.19"    "3.271"
##                     "-3.422"  "18"    "42.24"    "7.084"
##                     "-3.426"  "2"     "12.41"    "3.039"
##                     "-3.427"  "110"   "156.39"   "13.535"
##                     "-3.427"  "3"     "13.76"    "3.14"
##                     "-3.429"  "249"   "310.48"   "17.932"
##                     "-3.43"   "0"     "11.84"    "3.452"
##                     "-3.43"   "0"     "10.27"    "2.994"
##                     "-3.431"  "4"     "17.88"    "4.046"
##                     "-3.433"  "0"     "9.03"     "2.63"
##                     "-3.435"  "1"     "12.66"    "3.394"
##                     "-3.436"  "0"     "9.67"     "2.814"
##                     "-3.437"  "68"    "98.99"    "9.016"
##                     "-3.444"  "18"    "36.49"    "5.368"
##                     "-3.444"  "1"     "11.56"    "3.066"
##                     "-3.445"  "0"     "9.45"     "2.743"
```

```
##                      "-3.446"  "69"   "103.64"  "10.053"
##                      "-3.451"  "9"    "27.4"    "5.331"
##                      "-3.452"  "2"    "16.32"   "4.148"
##                      "-3.452"  "7"    "24.3"    "5.012"
##                      "-3.453"  "9"    "21.14"   "3.516"
##                      "-3.456"  "81"   "116.75"  "10.343"
##                      "-3.456"  "1"    "13.99"   "3.759"
##                      "-3.456"  "33"   "56.88"   "6.91"
##                      "-3.458"  "7"    "24.78"   "5.142"
##                      "-3.46"   "131"  "177.12"  "13.329"
##                      "-3.46"   "15"   "33.62"   "5.382"
##                      "-3.461"  "1"    "10.01"   "2.603"
##                      "-3.463"  "2"    "15.22"   "3.818"
##                      "-3.463"  "4"    "16.01"   "3.468"
##                      "-3.465"  "44"   "71.46"   "7.924"
##                      "-3.467"  "0"    "13.08"   "3.773"
##                      "-3.468"  "115"  "158.12"  "12.435"
##                      "-3.468"  "54"   "83.03"   "8.371"
##                      "-3.469"  "1"    "16.25"   "4.396"
##                      "-3.472"  "5"    "20.46"   "4.453"
##                      "-3.472"  "11"   "25.32"   "4.124"
##                      "-3.474"  "133"  "180.64"  "13.713"
##                      "-3.476"  "1"    "10.85"   "2.833"
##                      "-3.478"  "66"   "93.63"   "7.945"
##                      "-3.479"  "17"   "39.17"   "6.372"
##                      "-3.483"  "0"    "8.81"    "2.529"
##                      "-3.483"  "43"   "70.55"   "7.909"
##                      "-3.484"  "21"   "42.79"   "6.254"
##                      "-3.485"  "8"    "23.55"   "4.462"
##                      "-3.488"  "15"   "35.75"   "5.948"
##                      "-3.49"   "30"   "52.46"   "6.436"
##                      "-3.49"   "3"    "15.2"    "3.496"
##                      "-3.493"  "2"    "15.79"   "3.947"
##                      "-3.495"  "3"    "17.48"   "4.143"
##                      "-3.497"  "1"    "12.47"   "3.28"
##                      "-3.498"  "0"    "11.08"   "3.168"
##                      "-3.5"    "5"    "21.29"   "4.654"
##                      "-3.501"  "7"    "23.89"   "4.824"
##                      "-3.504"  "21"   "41.98"   "5.988"
##                      "-3.505"  "130"  "170.1"   "11.44"
##                      "-3.506"  "1"    "12.18"   "3.189"
##                      "-3.506"  "11"   "29.49"   "5.273"
##                      "-3.507"  "0"    "11.86"   "3.382"
##                      "-3.508"  "8"    "23.23"   "4.341"
##                      "-3.509"  "1"    "12.56"   "3.295"
##                      "-3.513"  "6"    "21.76"   "4.486"
##                      "-3.513"  "38"   "61.12"   "6.582"
##                      "-3.514"  "4"    "16.51"   "3.56"
##                      "-3.515"  "1"    "15.3"    "4.069"
##                      "-3.515"  "0"    "12.24"   "3.482"
##                      "-3.516"  "2"    "18.07"   "4.571"
##                      "-3.516"  "93"   "125.6"   "9.271"
##                      "-3.516"  "1"    "11.5"    "2.987"
##                      "-3.517"  "10"   "30.79"   "5.911"
```

```
##                      "-3.519"   "3"     "18.26"    "4.336"
##                      "-3.52"    "1"     "13.65"    "3.594"
##                      "-3.522"   "1"     "12.19"    "3.177"
##                      "-3.522"   "3"     "17.18"    "4.026"
##                      "-3.522"   "1"     "13.55"    "3.563"
##                      "-3.523"   "2"     "16.35"    "4.074"
##                      "-3.524"   "1"     "11.26"    "2.912"
##                      "-3.525"   "0"     "10.43"    "2.958"
##                      "-3.526"   "1"     "12.52"    "3.267"
##                      "-3.526"   "51"    "79.43"    "8.062"
##                      "-3.526"   "19"    "38.49"    "5.528"
##                      "-3.529"   "3"     "16.72"    "3.888"
##                      "-3.531"   "79"    "114.74"   "10.123"
##                      "-3.531"   "25"    "48.83"    "6.75"
##                      "-3.531"   "73"    "103.66"   "8.682"
##                      "-3.531"   "3"     "14.45"    "3.242"
##                      "-3.535"   "16"    "35.35"    "5.474"
##                      "-3.538"   "8"     "25.18"    "4.856"
##                      "-3.539"   "762"   "866.64"   "29.568"
##                      "-3.539"   "16"    "36.33"    "5.744"
##                      "-3.544"   "125"   "170.24"   "12.767"
##                      "-3.544"   "1"     "15.38"    "4.057"
##                      "-3.545"   "5"     "21.39"    "4.623"
##                      "-3.546"   "144"   "195.19"   "14.437"
##                      "-3.547"   "3"     "17.09"    "3.972"
##                      "-3.547"   "15"    "38.51"    "6.628"
##                      "-3.548"   "0"     "10.87"    "3.064"
##                      "-3.549"   "0"     "12.68"    "3.573"
##                      "-3.549"   "1"     "11.22"    "2.88"
##                      "-3.55"    "13"    "34.83"    "6.15"
##                      "-3.551"   "2"     "14.53"    "3.529"
##                      "-3.553"   "0"     "8.18"     "2.302"
##                      "-3.553"   "27"    "53.61"    "7.49"
##                      "-3.554"   "9"     "27.51"    "5.208"
##                      "-3.559"   "49"    "84.69"    "10.028"
##                      "-3.56"    "4"     "19.29"    "4.295"
##                      "-3.567"   "40"    "64.57"    "6.888"
##                      "-3.567"   "31"    "56.38"    "7.115"
##                      "-3.567"   "14"    "31.12"    "4.8"
##                      "-3.569"   "22"    "48.36"    "7.385"
##                      "-3.569"   "0"     "13.14"    "3.682"
##                      "-3.571"   "2"     "15.66"    "3.825"
##                      "-3.572"   "3"     "14.73"    "3.284"
##                      "-3.573"   "32"    "54.98"    "6.432"
##                      "-3.574"   "0"     "9.47"     "2.649"
##                      "-3.575"   "23"    "40.97"    "5.026"
##                      "-3.579"   "219"   "286.3"    "18.805"
##                      "-3.58"    "477"   "557.78"   "22.566"
##                      "-3.581"   "25"    "45.51"    "5.727"
##                      "-3.583"   "212"   "268"      "15.631"
##                      "-3.583"   "36"    "62.78"    "7.475"
##                      "-3.583"   "83"    "120.43"   "10.447"
##                      "-3.585"   "8"     "26.27"    "5.097"
##                      "-3.588"   "0"     "14.07"    "3.922"
```

```
##                    "-3.588"  "0"    "11.83"   "3.297"
##                    "-3.592"  "37"   "62.41"   "7.074"
##                    "-3.592"  "2"    "13.23"   "3.126"
##                    "-3.593"  "9"    "25.27"   "4.528"
##                    "-3.594"  "36"   "62.06"   "7.251"
##                    "-3.594"  "5"    "19.33"   "3.987"
##                    "-3.597"  "44"   "72.37"   "7.888"
##                    "-3.597"  "3"    "18.3"    "4.253"
##                    "-3.598"  "28"   "48.6"    "5.726"
##                    "-3.598"  "16"   "37.86"   "6.075"
##                    "-3.599"  "1"    "13.96"   "3.601"
##                    "-3.603"  "3"    "18.6"    "4.33"
##                    "-3.603"  "28"   "50.55"   "6.259"
##                    "-3.604"  "3"    "16.04"   "3.618"
##                    "-3.605"  "0"    "11.33"   "3.143"
##                    "-3.606"  "2"    "16.83"   "4.112"
##                    "-3.606"  "2"    "16.83"   "4.112"
##                    "-3.607"  "10"   "30.66"   "5.728"
##                    "-3.608"  "0"    "12.71"   "3.523"
##                    "-3.608"  "6"    "24.59"   "5.152"
##                    "-3.609"  "16"   "34.3"    "5.07"
##                    "-3.61"   "12"   "28.41"   "4.546"
##                    "-3.614"  "100"  "136.39"  "10.069"
##                    "-3.616"  "0"    "13.98"   "3.866"
##                    "-3.616"  "5"    "20.86"   "4.386"
##                    "-3.617"  "2"    "13.61"   "3.21"
##                    "-3.619"  "16"   "38.93"   "6.336"
##                    "-3.62"   "1"    "13.48"   "3.448"
##                    "-3.62"   "1"    "13.11"   "3.345"
##                    "-3.62"   "70"   "108.73"  "10.7"
##                    "-3.622"  "1"    "14.03"   "3.597"
##                    "-3.624"  "38"   "70.93"   "9.086"
##                    "-3.629"  "0"    "14.99"   "4.13"
##                    "-3.631"  "124"  "175.94"  "14.305"
##                    "-3.632"  "18"   "38.73"   "5.708"
##                    "-3.633"  "1"    "14.29"   "3.658"
##                    "-3.634"  "113"  "161.49"  "13.344"
##                    "-3.634"  "0"    "12.05"   "3.316"
##                    "-3.634"  "54"   "84.3"    "8.338"
##                    "-3.635"  "4"    "20.32"   "4.49"
##                    "-3.636"  "1"    "13.18"   "3.35"
##                    "-3.637"  "3"    "17.76"   "4.058"
##                    "-3.64"   "39"   "65.67"   "7.328"
##                    "-3.643"  "8"    "26.52"   "5.084"
##                    "-3.643"  "2"    "16.32"   "3.931"
##                    "-3.644"  "3"    "19.42"   "4.506"
##                    "-3.645"  "54"   "90.33"   "9.967"
##                    "-3.646"  "2"    "15.83"   "3.793"
##                    "-3.647"  "89"   "132.38"  "11.893"
##                    "-3.65"   "2"    "18.01"   "4.387"
##                    "-3.65"   "13"   "33.75"   "5.684"
##                    "-3.65"   "2"    "14.15"   "3.328"
##                    "-3.653"  "2"    "16.07"   "3.851"
##                    "-3.654"  "2"    "14.48"   "3.416"
```

```
##                     "-3.654"  "4"     "19.55"   "4.255"
##                     "-3.654"  "0"     "11.14"   "3.048"
##                     "-3.654"  "16"    "35.48"   "5.33"
##                     "-3.661"  "1"     "13.75"   "3.483"
##                     "-3.661"  "13"    "33.83"   "5.689"
##                     "-3.661"  "1"     "14.58"   "3.71"
##                     "-3.661"  "2"     "12.93"   "2.986"
##                     "-3.662"  "1"     "13.62"   "3.446"
##                     "-3.665"  "486"   "570.67"  "23.105"
##                     "-3.668"  "58"    "91.43"   "9.115"
##                     "-3.671"  "50"    "83.83"   "9.215"
##                     "-3.676"  "1"     "13.01"   "3.268"
##                     "-3.677"  "0"     "11.56"   "3.144"
##                     "-3.68"   "15"    "36.73"   "5.905"
##                     "-3.68"   "16"    "38.47"   "6.106"
##                     "-3.681"  "13"    "34.49"   "5.839"
##                     "-3.686"  "24"    "48.51"   "6.649"
##                     "-3.687"  "61"    "96.24"   "9.559"
##                     "-3.687"  "5"     "22.25"   "4.678"
##                     "-3.687"  "0"     "13.9"    "3.77"
##                     "-3.688"  "4"     "17.72"   "3.72"
##                     "-3.689"  "1"     "13.08"   "3.274"
##                     "-3.69"   "2"     "16.29"   "3.872"
##                     "-3.691"  "7"     "27.99"   "5.686"
##                     "-3.695"  "0"     "11.26"   "3.047"
##                     "-3.696"  "4"     "22.17"   "4.916"
##                     "-3.696"  "2"     "15.5"    "3.653"
##                     "-3.698"  "0"     "13.53"   "3.658"
##                     "-3.698"  "16"    "36"      "5.409"
##                     "-3.703"  "6"     "24.85"   "5.09"
##                     "-3.707"  "2"     "14.64"   "3.41"
##                     "-3.708"  "2"     "12.94"   "2.95"
##                     "-3.708"  "21"    "44.94"   "6.455"
##                     "-3.71"   "0"     "13.14"   "3.542"
##                     "-3.71"   "1"     "15.9"    "4.016"
##                     "-3.71"   "59"    "94.68"   "9.618"
##                     "-3.711"  "90"    "129.82"  "10.73"
##                     "-3.711"  "425"   "506.1"   "21.853"
##                     "-3.72"   "2"     "18.05"   "4.314"
##                     "-3.721"  "14"    "33.92"   "5.354"
##                     "-3.729"  "98"    "138.05"  "10.742"
##                     "-3.729"  "0"     "13.24"   "3.551"
##                     "-3.729"  "22"    "49.7"    "7.428"
##                     "-3.73"   "5"     "20.69"   "4.206"
##                     "-3.734"  "2"     "15.86"   "3.712"
##                     "-3.735"  "0"     "15.15"   "4.056"
##                     "-3.739"  "68"    "102.87"  "9.326"
##                     "-3.741"  "0"     "13.53"   "3.617"
##                     "-3.742"  "658"   "760.17"  "27.302"
##                     "-3.745"  "109"   "156.02"  "12.555"
##                     "-3.746"  "23"    "49.76"   "7.144"
##                     "-3.748"  "19"    "43.64"   "6.574"
##                     "-3.748"  "10"    "28"      "4.803"
##                     "-3.75"   "1"     "15.38"   "3.834"
```

```
##                    "-3.754"  "30"   "60.1"    "8.018"
##                    "-3.754"  "54"   "83.23"   "7.787"
##                    "-3.754"  "81"   "124.94"  "11.706"
##                    "-3.755"  "3"    "14.87"   "3.161"
##                    "-3.755"  "2"    "18.73"   "4.456"
##                    "-3.758"  "18"   "43.37"   "6.75"
##                    "-3.762"  "13"   "35.58"   "6.002"
##                    "-3.762"  "1"    "17.67"   "4.431"
##                    "-3.765"  "7"    "23.79"   "4.459"
##                    "-3.766"  "0"    "12.63"   "3.353"
##                    "-3.769"  "5"    "24.56"   "5.19"
##                    "-3.769"  "7"    "27.93"   "5.553"
##                    "-3.77"   "1"    "15.53"   "3.855"
##                    "-3.773"  "26"   "52"      "6.892"
##                    "-3.773"  "11"   "30.19"   "5.087"
##                    "-3.774"  "0"    "12.57"   "3.331"
##                    "-3.778"  "2"    "16.55"   "3.852"
##                    "-3.778"  "24"   "52.87"   "7.642"
##                    "-3.78"   "22"   "50.42"   "7.519"
##                    "-3.781"  "0"    "14.78"   "3.91"
##                    "-3.782"  "0"    "13.05"   "3.451"
##                    "-3.782"  "4"    "17.54"   "3.58"
##                    "-3.783"  "44"   "75.57"   "8.345"
##                    "-3.784"  "45"   "77.03"   "8.464"
##                    "-3.785"  "1"    "15.22"   "3.757"
##                    "-3.785"  "1"    "14.23"   "3.496"
##                    "-3.786"  "10"   "29.65"   "5.19"
##                    "-3.786"  "11"   "29.33"   "4.841"
##                    "-3.788"  "0"    "14.36"   "3.791"
##                    "-3.79"   "55"   "85.07"   "7.934"
##                    "-3.792"  "1"    "15.97"   "3.948"
##                    "-3.794"  "15"   "37.61"   "5.959"
##                    "-3.795"  "10"   "32.33"   "5.885"
##                    "-3.795"  "15"   "38.19"   "6.111"
##                    "-3.795"  "3"    "19.02"   "4.221"
##                    "-3.796"  "1"    "14.14"   "3.461"
##                    "-3.797"  "11"   "29.47"   "4.865"
##                    "-3.797"  "106"  "151.35"  "11.945"
##                    "-3.801"  "15"   "37.25"   "5.854"
##                    "-3.803"  "9"    "31.08"   "5.806"
##                    "-3.808"  "4"    "19.91"   "4.178"
##                    "-3.809"  "0"    "10.8"    "2.836"
##                    "-3.812"  "15"   "38.4"    "6.138"
##                    "-3.812"  "6"    "26.84"   "5.467"
##                    "-3.813"  "62"   "100.95"  "10.215"
##                    "-3.816"  "12"   "35.86"   "6.252"
##                    "-3.817"  "3"    "19.88"   "4.423"
##                    "-3.817"  "23"   "50.33"   "7.159"
##                    "-3.818"  "1"    "16.71"   "4.115"
##                    "-3.82"   "25"   "52.88"   "7.298"
##                    "-3.821"  "2"    "17.44"   "4.041"
##                    "-3.822"  "1"    "13.79"   "3.346"
##                    "-3.822"  "15"   "35.79"   "5.439"
##                    "-3.822"  "10"   "32.31"   "5.837"
```

```
##                     "-3.826"  "31"   "56.22"   "6.591"
##                     "-3.827"  "5"    "21.53"   "4.319"
##                     "-3.827"  "4"    "20.33"   "4.267"
##                     "-3.829"  "78"   "110.21"  "8.413"
##                     "-3.832"  "4"    "19.93"   "4.157"
##                     "-3.832"  "5"    "24.6"    "5.115"
##                     "-3.835"  "4"    "24.29"   "5.29"
##                     "-3.836"  "15"   "36.8"    "5.684"
##                     "-3.836"  "1"    "19.58"   "4.843"
##                     "-3.846"  "11"   "36.39"   "6.601"
##                     "-3.848"  "1"    "16.54"   "4.039"
##                     "-3.85"   "12"   "32.09"   "5.219"
##                     "-3.85"   "23"   "49.61"   "6.912"
##                     "-3.85"   "1"    "18.4"    "4.519"
##                     "-3.857"  "14"   "38.59"   "6.376"
##                     "-3.857"  "2"    "19.12"   "4.439"
##                     "-3.858"  "9"    "28.43"   "5.036"
##                     "-3.859"  "4"    "19.8"    "4.095"
##                     "-3.86"   "1"    "19.51"   "4.796"
##                     "-3.863"  "163"  "217.8"   "14.184"
##                     "-3.864"  "3"    "19.78"   "4.343"
##                     "-3.864"  "3"    "19.75"   "4.335"
##                     "-3.867"  "4"    "19.06"   "3.895"
##                     "-3.869"  "58"   "91.06"   "8.546"
##                     "-3.872"  "1"    "16.85"   "4.093"
##                     "-3.873"  "12"   "34.69"   "5.858"
##                     "-3.874"  "10"   "31.47"   "5.542"
##                     "-3.874"  "0"    "12.16"   "3.139"
##                     "-3.874"  "3"    "21.63"   "4.809"
##                     "-3.876"  "24"   "47.68"   "6.11"
##                     "-3.876"  "3"    "18.17"   "3.913"
##                     "-3.877"  "154"  "212.37"  "15.055"
##                     "-3.877"  "20"   "45.75"   "6.641"
##                     "-3.878"  "1"    "14.97"   "3.603"
##                     "-3.884"  "100"  "149.88"  "12.842"
##                     "-3.885"  "8"    "27.75"   "5.084"
##                     "-3.889"  "238"  "304.98"  "17.222"
##                     "-3.892"  "40"   "66.28"   "6.753"
##                     "-3.895"  "4"    "19.98"   "4.102"
##                     "-3.895"  "3"    "20.31"   "4.444"
##                     "-3.896"  "30"   "59.98"   "7.695"
##                     "-3.897"  "9"    "30.29"   "5.463"
##                     "-3.898"  "14"   "34.38"   "5.228"
##                     "-3.9"    "115"  "165.51"  "12.951"
##                     "-3.901"  "5"    "20.99"   "4.099"
##                     "-3.903"  "6"    "24.35"   "4.702"
##                     "-3.905"  "8"    "30.45"   "5.75"
##                     "-3.906"  "18"   "41.64"   "6.053"
##                     "-3.909"  "2"    "16.67"   "3.753"
##                     "-3.912"  "323"  "388.17"  "16.658"
##                     "-3.919"  "1"    "17.46"   "4.201"
##                     "-3.919"  "1"    "11.53"   "2.687"
##                     "-3.929"  "5"    "20.36"   "3.909"
##                     "-3.93"   "6"    "26.25"   "5.153"
```

```
##                    "-3.93"   "2"     "21.86"   "5.053"
##                    "-3.933"  "2"     "16.6"    "3.712"
##                    "-3.934"  "2"     "19.61"   "4.476"
##                    "-3.934"  "159"   "213.42"  "13.832"
##                    "-3.935"  "7"     "28.82"   "5.546"
##                    "-3.937"  "46"    "73.95"   "7.1"
##                    "-3.939"  "1"     "16.15"   "3.846"
##                    "-3.94"   "5"     "23.91"   "4.799"
##                    "-3.943"  "0"     "16.68"   "4.23"
##                    "-3.943"  "9"     "32.64"   "5.996"
##                    "-3.943"  "42"    "78.73"   "9.315"
##                    "-3.946"  "9"     "32.59"   "5.978"
##                    "-3.948"  "4"     "24.05"   "5.078"
##                    "-3.949"  "15"    "40.92"   "6.564"
##                    "-3.949"  "14"    "41.2"    "6.887"
##                    "-3.953"  "110"   "159.24"  "12.458"
##                    "-3.955"  "1"     "18.4"    "4.399"
##                    "-3.958"  "1"     "18"      "4.295"
##                    "-3.96"   "1"     "17.7"    "4.218"
##                    "-3.962"  "13"    "35.92"   "5.785"
##                    "-3.967"  "0"     "14.26"   "3.595"
##                    "-3.967"  "43"    "71.59"   "7.207"
##                    "-3.967"  "60"    "109.31"  "12.43"
##                    "-3.967"  "2"     "15.39"   "3.375"
##                    "-3.97"   "7"     "23.55"   "4.169"
##                    "-3.973"  "1"     "16.47"   "3.894"
##                    "-3.974"  "20"    "45.77"   "6.485"
##                    "-3.974"  "0"     "12.72"   "3.201"
##                    "-3.975"  "10"    "29.18"   "4.825"
##                    "-3.975"  "184"   "251.41"  "16.958"
##                    "-3.976"  "239"   "301.88"  "15.817"
##                    "-3.98"   "1"     "15.62"   "3.673"
##                    "-3.984"  "20"    "50.07"   "7.548"
##                    "-3.986"  "3"     "18.53"   "3.896"
##                    "-3.988"  "8"     "28.03"   "5.022"
##                    "-3.989"  "1"     "17.69"   "4.184"
##                    "-3.99"   "15"    "32.16"   "4.301"
##                    "-3.99"   "9"     "28.87"   "4.98"
##                    "-3.996"  "44"    "76.32"   "8.088"
##                    "-4"      "59"    "95.32"   "9.081"
##                    "-4.001"  "68"    "107.74"  "9.932"
##                    "-4.002"  "56"    "91.58"   "8.89"
##                    "-4.002"  "1"     "14.98"   "3.493"
##                    "-4.003"  "2"     "16.49"   "3.62"
##                    "-4.005"  "4"     "23.62"   "4.899"
##                    "-4.007"  "1"     "17.82"   "4.198"
##                    "-4.008"  "0"     "13.86"   "3.458"
##                    "-4.014"  "3"     "20.31"   "4.313"
##                    "-4.016"  "6"     "22.49"   "4.106"
##                    "-4.017"  "17"    "42.42"   "6.328"
##                    "-4.019"  "106"   "155.3"   "12.267"
##                    "-4.024"  "1"     "18.32"   "4.304"
##                    "-4.025"  "0"     "12.84"   "3.19"
##                    "-4.026"  "23"    "54.51"   "7.827"
```

```
##                  "-4.026"  "34"   "63.71"   "7.379"
##                  "-4.028"  "0"    "12.47"   "3.096"
##                  "-4.029"  "130"  "179.75"  "12.349"
##                  "-4.03"   "5"    "23.31"   "4.543"
##                  "-4.032"  "19"   "46.27"   "6.763"
##                  "-4.036"  "3"    "21.39"   "4.557"
##                  "-4.037"  "4"    "19.53"   "3.847"
##                  "-4.042"  "525"  "623.7"   "24.42"
##                  "-4.047"  "9"    "31.59"   "5.582"
##                  "-4.053"  "4"    "20.03"   "3.955"
##                  "-4.053"  "4"    "21.33"   "4.276"
##                  "-4.056"  "16"   "40.64"   "6.074"
##                  "-4.056"  "35"   "69.46"   "8.496"
##                  "-4.057"  "8"    "29.17"   "5.219"
##                  "-4.061"  "1"    "16.1"    "3.719"
##                  "-4.067"  "6"    "24.07"   "4.443"
##                  "-4.071"  "0"    "15.71"   "3.859"
##                  "-4.071"  "18"   "41.84"   "5.856"
##                  "-4.072"  "5"    "23.9"    "4.642"
##                  "-4.074"  "1"    "18.85"   "4.382"
##                  "-4.075"  "0"    "14.33"   "3.516"
##                  "-4.08"   "10"   "31.9"    "5.368"
##                  "-4.083"  "0"    "11.04"   "2.704"
##                  "-4.085"  "76"   "116.41"  "9.891"
##                  "-4.091"  "12"   "35.3"    "5.695"
##                  "-4.091"  "102"  "147.86"  "11.209"
##                  "-4.096"  "0"    "16.46"   "4.019"
##                  "-4.098"  "36"   "62.84"   "6.55"
##                  "-4.1"    "37"   "72.12"   "8.566"
##                  "-4.102"  "12"   "32.81"   "5.073"
##                  "-4.107"  "90"   "135.22"  "11.009"
##                  "-4.107"  "20"   "53.34"   "8.118"
##                  "-4.109"  "271"  "343.87"  "17.734"
##                  "-4.11"   "8"    "30.38"   "5.445"
##                  "-4.11"   "3"    "19.31"   "3.969"
##                  "-4.112"  "38"   "76.99"   "9.481"
##                  "-4.115"  "3"    "17"      "3.402"
##                  "-4.115"  "3"    "17"      "3.402"
##                  "-4.115"  "3"    "17"      "3.402"
##                  "-4.122"  "123"  "171.42"  "11.747"
##                  "-4.125"  "84"   "127.3"   "10.497"
##                  "-4.125"  "2"    "19.3"    "4.194"
##                  "-4.128"  "12"   "38.6"    "6.443"
##                  "-4.132"  "19"   "42.41"   "5.666"
##                  "-4.133"  "3"    "21.46"   "4.466"
##                  "-4.135"  "0"    "11.69"   "2.827"
##                  "-4.139"  "2"    "17.73"   "3.8"
##                  "-4.152"  "0"    "14.2"    "3.42"
##                  "-4.152"  "1"    "19.64"   "4.489"
##                  "-4.154"  "5"    "23.2"    "4.381"
##                  "-4.155"  "6"    "30.83"   "5.976"
##                  "-4.162"  "114"  "163.94"  "12"
##                  "-4.166"  "2"    "18.87"   "4.049"
##                  "-4.167"  "5"    "27.95"   "5.507"
```

```
##                     "-4.169"  "200"   "261.83"  "14.832"
##                     "-4.169"  "17"    "44.86"   "6.683"
##                     "-4.17"   "14"    "41.43"   "6.579"
##                     "-4.171"  "5"     "24.77"   "4.739"
##                     "-4.174"  "5"     "27.29"   "5.34"
##                     "-4.176"  "7"     "30.79"   "5.697"
##                     "-4.178"  "6"     "24.65"   "4.464"
##                     "-4.178"  "16"    "41.64"   "6.137"
##                     "-4.179"  "4"     "24.7"    "4.953"
##                     "-4.18"   "9"     "30.14"   "5.057"
##                     "-4.181"  "29"    "61.47"   "7.766"
##                     "-4.182"  "37"    "65.85"   "6.898"
##                     "-4.187"  "26"    "53.37"   "6.538"
##                     "-4.192"  "2"     "18.83"   "4.015"
##                     "-4.195"  "92"    "136.81"  "10.681"
##                     "-4.197"  "0"     "15.56"   "3.707"
##                     "-4.199"  "66"    "106.8"   "9.716"
##                     "-4.202"  "2"     "20.32"   "4.36"
##                     "-4.204"  "315"   "408.66"  "22.279"
##                     "-4.208"  "2"     "20.36"   "4.364"
##                     "-4.211"  "5"     "24.36"   "4.598"
##                     "-4.214"  "45"    "79.58"   "8.206"
##                     "-4.215"  "4"     "25.64"   "5.134"
##                     "-4.216"  "27"    "56.7"    "7.045"
##                     "-4.218"  "7"     "23.49"   "3.909"
##                     "-4.229"  "0"     "16.66"   "3.939"
##                     "-4.23"   "0"     "14.42"   "3.409"
##                     "-4.23"   "5"     "24.07"   "4.509"
##                     "-4.234"  "10"    "28.4"    "4.346"
##                     "-4.235"  "6"     "22.26"   "3.839"
##                     "-4.237"  "7"     "29.85"   "5.392"
##                     "-4.241"  "8"     "28.96"   "4.942"
##                     "-4.241"  "1"     "16.55"   "3.666"
##                     "-4.243"  "1"     "22.48"   "5.062"
##                     "-4.245"  "17"    "44.7"    "6.525"
##                     "-4.246"  "1"     "17.42"   "3.867"
##                     "-4.247"  "68"    "103.39"  "8.334"
##                     "-4.25"   "2"     "20.66"   "4.391"
##                     "-4.252"  "227"   "297.54"  "16.589"
##                     "-4.252"  "10"    "35.91"   "6.094"
##                     "-4.257"  "11"    "36.21"   "5.923"
##                     "-4.26"   "2"     "22.57"   "4.829"
##                     "-4.262"  "111"   "162.28"  "12.033"
##                     "-4.269"  "0"     "15.99"   "3.746"
##                     "-4.271"  "3"     "20.06"   "3.994"
##                     "-4.278"  "18"    "50.75"   "7.655"
##                     "-4.284"  "515"   "642.4"   "29.739"
##                     "-4.29"   "38"    "77.13"   "9.121"
##                     "-4.291"  "33"    "65.34"   "7.536"
##                     "-4.292"  "24"    "55.12"   "7.251"
##                     "-4.294"  "2"     "19.23"   "4.012"
##                     "-4.297"  "11"    "33.34"   "5.199"
##                     "-4.31"   "9"     "33.96"   "5.791"
##                     "-4.31"   "10"    "33.96"   "5.559"
```

```
##                      "-4.311"  "14"    "35.02"   "4.876"
##                      "-4.314"  "3"     "21.03"   "4.179"
##                      "-4.314"  "11"    "36.19"   "5.839"
##                      "-4.315"  "97"    "147.24"  "11.642"
##                      "-4.32"   "2"     "17.9"    "3.68"
##                      "-4.321"  "84"    "132.18"  "11.151"
##                      "-4.323"  "92"    "137.61"  "10.55"
##                      "-4.324"  "38"    "69.83"   "7.361"
##                      "-4.324"  "2"     "17.86"   "3.668"
##                      "-4.325"  "7"     "28.91"   "5.065"
##                      "-4.328"  "6"     "28.64"   "5.231"
##                      "-4.334"  "0"     "14.92"   "3.443"
##                      "-4.334"  "3"     "26.28"   "5.371"
##                      "-4.335"  "14"    "41"      "6.228"
##                      "-4.336"  "5"     "24.64"   "4.529"
##                      "-4.34"   "21"    "50.01"   "6.684"
##                      "-4.341"  "31"    "62.3"    "7.21"
##                      "-4.348"  "13"    "36.7"    "5.45"
##                      "-4.349"  "151"   "210.7"   "13.728"
##                      "-4.351"  "2"     "18.41"   "3.771"
##                      "-4.352"  "284"   "371.72"  "20.156"
##                      "-4.353"  "27"    "60.23"   "7.634"
##                      "-4.354"  "5"     "28.68"   "5.438"
##                      "-4.357"  "3"     "21.56"   "4.26"
##                      "-4.358"  "85"    "135.71"  "11.636"
##                      "-4.36"   "94"    "144.01"  "11.469"
##                      "-4.362"  "6"     "28.29"   "5.109"
##                      "-4.362"  "8"     "28.53"   "4.706"
##                      "-4.365"  "4"     "24.57"   "4.712"
##                      "-4.371"  "13"    "42.85"   "6.829"
##                      "-4.371"  "61"    "105.1"   "10.09"
##                      "-4.374"  "15"    "42.15"   "6.207"
##                      "-4.376"  "1"     "19.85"   "4.307"
##                      "-4.379"  "5"     "28.81"   "5.438"
##                      "-4.379"  "34"    "74.3"    "9.202"
##                      "-4.38"   "40"    "85.46"   "10.378"
##                      "-4.381"  "3"     "21.82"   "4.296"
##                      "-4.387"  "26"    "57.49"   "7.178"
##                      "-4.388"  "61"    "95.36"   "7.831"
##                      "-4.389"  "12"    "38.85"   "6.117"
##                      "-4.391"  "8"     "31.54"   "5.361"
##                      "-4.392"  "224"   "307.88"  "19.099"
##                      "-4.396"  "125"   "183.27"  "13.255"
##                      "-4.397"  "15"    "40.64"   "5.832"
##                      "-4.399"  "8"     "33.08"   "5.701"
##                      "-4.403"  "11"    "34.69"   "5.38"
##                      "-4.403"  "13"    "39.41"   "5.998"
##                      "-4.404"  "3"     "20.89"   "4.062"
##                      "-4.404"  "59"    "98.67"   "9.007"
##                      "-4.405"  "8"     "28.2"    "4.586"
##                      "-4.406"  "7"     "30.81"   "5.404"
##                      "-4.412"  "21"    "51.88"   "7"
##                      "-4.414"  "13"    "37.71"   "5.598"
##                      "-4.425"  "9"     "31.48"   "5.08"
```

```
##                      "-4.426"   "2"     "25.02"    "5.201"
##                      "-4.426"   "24"    "58.01"    "7.684"
##                      "-4.426"   "1"     "20.34"    "4.37"
##                      "-4.428"   "30"    "63.29"    "7.517"
##                      "-4.428"   "74"    "117.94"   "9.924"
##                      "-4.429"   "1"     "20.21"    "4.338"
##                      "-4.429"   "0"     "21.13"    "4.771"
##                      "-4.432"   "0"     "20.98"    "4.733"
##                      "-4.437"   "1"     "20.12"    "4.309"
##                      "-4.438"   "12"    "41.67"    "6.685"
##                      "-4.442"   "15"    "42.66"    "6.227"
##                      "-4.444"   "374"   "463.16"   "20.061"
##                      "-4.453"   "14"    "38.14"    "5.422"
##                      "-4.453"   "8"     "33.89"    "5.813"
##                      "-4.454"   "17"    "40.45"    "5.265"
##                      "-4.455"   "79"    "136.52"   "12.91"
##                      "-4.456"   "1"     "22.52"    "4.829"
##                      "-4.456"   "1"     "16.74"    "3.532"
##                      "-4.456"   "31"    "65.89"    "7.83"
##                      "-4.459"   "0"     "17.35"    "3.891"
##                      "-4.463"   "14"    "40.74"    "5.991"
##                      "-4.465"   "37"    "68.83"    "7.128"
##                      "-4.471"   "18"    "49.19"    "6.976"
##                      "-4.486"   "48"    "90.64"    "9.504"
##                      "-4.491"   "2"     "20.83"    "4.192"
##                      "-4.493"   "32"    "67.2"     "7.834"
##                      "-4.494"   "181"   "240.69"   "13.281"
##                      "-4.505"   "6"     "31.18"    "5.589"
##                      "-4.51"    "2"     "21.59"    "4.344"
##                      "-4.51"    "0"     "15.26"    "3.383"
##                      "-4.513"   "14"    "40.93"    "5.967"
##                      "-4.513"   "7"     "32.46"    "5.642"
##                      "-4.514"   "2"     "18.96"    "3.758"
##                      "-4.515"   "37"    "72.6"     "7.884"
##                      "-4.515"   "9"     "30.11"    "4.675"
##                      "-4.516"   "5"     "28.52"    "5.208"
##                      "-4.517"   "10"    "33.55"    "5.213"
##                      "-4.518"   "5"     "26.28"    "4.71"
##                      "-4.534"   "12"    "45.52"    "7.393"
##                      "-4.536"   "6"     "30.33"    "5.364"
##                      "-4.541"   "17"    "44.98"    "6.161"
##                      "-4.542"   "5"     "28.42"    "5.157"
##                      "-4.546"   "450"   "580"      "28.594"
##                      "-4.55"    "45"    "85.81"    "8.97"
##                      "-4.552"   "28"    "62.79"    "7.643"
##                      "-4.554"   "60"    "100.18"   "8.823"
##                      "-4.56"    "75"    "126.13"   "11.212"
##                      "-4.561"   "38"    "77.44"    "8.647"
##                      "-4.564"   "72"    "120.76"   "10.684"
##                      "-4.564"   "45"    "83.2"     "8.369"
##                      "-4.565"   "15"    "44.03"    "6.359"
##                      "-4.567"   "7"     "30.86"    "5.224"
##                      "-4.569"   "4"     "23.23"    "4.209"
##                      "-4.569"   "9"     "36.79"    "6.082"
```

```
##                      "-4.571"  "88"    "146.89"   "12.885"
##                      "-4.582"  "98"    "140.13"   "9.196"
##                      "-4.585"  "0"     "12.44"    "2.713"
##                      "-4.585"  "8"     "33.33"    "5.525"
##                      "-4.586"  "7"     "31.32"    "5.303"
##                      "-4.589"  "95"    "148.81"   "11.726"
##                      "-4.592"  "4"     "24.04"    "4.365"
##                      "-4.593"  "20"    "52.09"    "6.986"
##                      "-4.603"  "194"   "254.37"   "13.115"
##                      "-4.603"  "9"     "39.58"    "6.644"
##                      "-4.603"  "1"     "23.31"    "4.847"
##                      "-4.607"  "35"    "68.57"    "7.287"
##                      "-4.609"  "48"    "97.69"    "10.782"
##                      "-4.615"  "3"     "25.18"    "4.806"
##                      "-4.615"  "16"    "49.46"    "7.251"
##                      "-4.619"  "5"     "29.2"     "5.24"
##                      "-4.619"  "28"    "58.79"    "6.666"
##                      "-4.632"  "12"    "41.46"    "6.36"
##                      "-4.634"  "20"    "48.88"    "6.232"
##                      "-4.643"  "8"     "37.33"    "6.317"
##                      "-4.646"  "7"     "33.32"    "5.666"
##                      "-4.647"  "12"    "36.89"    "5.356"
##                      "-4.648"  "23"    "56.83"    "7.278"
##                      "-4.65"   "13"    "36.5"     "5.054"
##                      "-4.652"  "0"     "22.36"    "4.806"
##                      "-4.662"  "38"    "81.54"    "9.339"
##                      "-4.663"  "3"     "29.49"    "5.681"
##                      "-4.665"  "16"    "46.13"    "6.458"
##                      "-4.668"  "13"    "42.68"    "6.358"
##                      "-4.675"  "1"     "18.39"    "3.72"
##                      "-4.676"  "8"     "34.14"    "5.59"
##                      "-4.679"  "9"     "38.25"    "6.251"
##                      "-4.687"  "0"     "22.3"     "4.758"
##                      "-4.69"   "0"     "18.56"    "3.958"
##                      "-4.691"  "98"    "164.38"   "14.149"
##                      "-4.691"  "22"    "54.23"    "6.871"
##                      "-4.698"  "11"    "41.34"    "6.458"
##                      "-4.71"   "5"     "30.49"    "5.411"
##                      "-4.718"  "28"    "63.72"    "7.571"
##                      "-4.719"  "21"    "49.86"    "6.115"
##                      "-4.724"  "1"     "19.94"    "4.01"
##                      "-4.731"  "15"    "42.57"    "5.828"
##                      "-4.735"  "3"     "28.98"    "5.486"
##                      "-4.737"  "112"   "167.74"   "11.767"
##                      "-4.739"  "60"    "108.56"   "10.248"
##                      "-4.74"   "7"     "32.99"    "5.484"
##                      "-4.744"  "10"    "32.57"    "4.757"
##                      "-4.745"  "1549"  "1731.95"  "38.553"
##                      "-4.746"  "52"    "93.94"    "8.836"
##                      "-4.753"  "5"     "29.64"    "5.185"
##                      "-4.753"  "19"    "48.39"    "6.184"
##                      "-4.754"  "14"    "41.38"    "5.759"
##                      "-4.758"  "53"    "97.78"    "9.412"
##                      "-4.761"  "67"    "113.28"   "9.721"
```

```
##                      "-4.769"  "15"   "47.23"    "6.758"
##                      "-4.771"  "20"   "54.27"    "7.183"
##                      "-4.774"  "31"   "63.49"    "6.805"
##                      "-4.777"  "7"    "36.83"    "6.244"
##                      "-4.778"  "1"    "25.73"    "5.175"
##                      "-4.784"  "106"  "159.73"   "11.23"
##                      "-4.79"   "1"    "15.08"    "2.939"
##                      "-4.794"  "0"    "20.76"    "4.33"
##                      "-4.8"    "295"  "380.8"    "17.875"
##                      "-4.807"  "47"   "88.38"    "8.609"
##                      "-4.809"  "8"    "31.65"    "4.918"
##                      "-4.812"  "1"    "20.63"    "4.079"
##                      "-4.821"  "10"   "35.3"     "5.248"
##                      "-4.823"  "1"    "29.95"    "6.002"
##                      "-4.823"  "17"   "45.06"    "5.819"
##                      "-4.827"  "385"  "510.82"   "26.065"
##                      "-4.832"  "6"    "29.74"    "4.913"
##                      "-4.832"  "3"    "23.42"    "4.226"
##                      "-4.84"   "27"   "69.28"    "8.735"
##                      "-4.846"  "11"   "40.73"    "6.135"
##                      "-4.846"  "2"    "20.15"    "3.745"
##                      "-4.846"  "4"    "28.81"    "5.12"
##                      "-4.847"  "49"   "95.82"    "9.66"
##                      "-4.851"  "11"   "38.63"    "5.695"
##                      "-4.857"  "63"   "121.06"   "11.954"
##                      "-4.867"  "61"   "116.45"   "11.392"
##                      "-4.876"  "160"  "228.62"   "14.074"
##                      "-4.877"  "22"   "63.14"    "8.435"
##                      "-4.877"  "34"   "69.97"    "7.375"
##                      "-4.878"  "20"   "55"       "7.175"
##                      "-4.88"   "122"  "187.25"   "13.371"
##                      "-4.881"  "95"   "148.48"   "10.957"
##                      "-4.886"  "5"    "30.95"    "5.311"
##                      "-4.902"  "20"   "46.95"    "5.498"
##                      "-4.902"  "4"    "28.05"    "4.906"
##                      "-4.907"  "8"    "38.8"     "6.276"
##                      "-4.907"  "6"    "28.23"    "4.53"
##                      "-4.928"  "2"    "28"       "5.276"
##                      "-4.931"  "1"    "22.99"    "4.46"
##                      "-4.932"  "6"    "33.48"    "5.571"
##                      "-4.934"  "167"  "239.74"   "14.741"
##                      "-4.935"  "140"  "212.3"    "14.65"
##                      "-4.936"  "42"   "85.24"    "8.76"
##                      "-4.937"  "0"    "27.41"    "5.552"
##                      "-4.938"  "14"   "43.01"    "5.875"
##                      "-4.947"  "18"   "52.98"    "7.071"
##                      "-4.952"  "3"    "21.56"    "3.748"
##                      "-4.953"  "4"    "33.07"    "5.869"
##                      "-4.961"  "13"   "43.85"    "6.219"
##                      "-4.974"  "68"   "121.79"   "10.815"
##                      "-4.974"  "113"  "175.76"   "12.616"
##                      "-4.974"  "1"    "22.52"    "4.326"
##                      "-4.98"   "112"  "183.01"   "14.26"
##                      "-4.982"  "11"   "40.56"    "5.933"
```

```
##                    "-4.983"  "25"   "57.82"   "6.586"
##                    "-4.984"  "4"    "24.98"   "4.209"
##                    "-4.985"  "24"   "65.96"   "8.417"
##                    "-4.988"  "44"   "88.91"   "9.003"
##                    "-4.996"  "4"    "25.95"   "4.393"
##                    "-4.996"  "6"    "29.02"   "4.608"
##                    "-5.005"  "3"    "27.13"   "4.821"
##                    "-5.006"  "6"    "29.76"   "4.746"
##                    "-5.007"  "7"    "38.81"   "6.353"
##                    "-5.01"   "3"    "23.78"   "4.148"
##                    "-5.015"  "8"    "33.83"   "5.15"
##                    "-5.016"  "4"    "28.97"   "4.978"
##                    "-5.016"  "12"   "38.82"   "5.347"
##                    "-5.024"  "76"   "128.99"  "10.548"
##                    "-5.025"  "192"  "267.47"  "15.018"
##                    "-5.026"  "27"   "68.63"   "8.284"
##                    "-5.027"  "4"    "30.46"   "5.264"
##                    "-5.041"  "17"   "56.59"   "7.854"
##                    "-5.05"   "51"   "106.1"   "10.911"
##                    "-5.05"   "8"    "31.58"   "4.669"
##                    "-5.061"  "18"   "50.11"   "6.345"
##                    "-5.063"  "513"  "629.78"  "23.066"
##                    "-5.064"  "16"   "54.94"   "7.689"
##                    "-5.066"  "73"   "124.47"  "10.16"
##                    "-5.082"  "98"   "168.46"  "13.865"
##                    "-5.083"  "27"   "67.31"   "7.93"
##                    "-5.086"  "23"   "54.83"   "6.259"
##                    "-5.087"  "13"   "46.41"   "6.568"
##                    "-5.09"   "0"    "26.88"   "5.281"
##                    "-5.092"  "540"  "654.35"  "22.458"
##                    "-5.095"  "15"   "44.05"   "5.702"
##                    "-5.097"  "29"   "78.57"   "9.725"
##                    "-5.1"    "0"    "24.21"   "4.747"
##                    "-5.104"  "2"    "33.56"   "6.183"
##                    "-5.108"  "3"    "25.67"   "4.438"
##                    "-5.112"  "1"    "22.56"   "4.217"
##                    "-5.113"  "78"   "140.29"  "12.183"
##                    "-5.118"  "18"   "50.76"   "6.401"
##                    "-5.126"  "17"   "48.35"   "6.116"
##                    "-5.129"  "406"  "506.26"  "19.548"
##                    "-5.133"  "12"   "47.12"   "6.842"
##                    "-5.134"  "12"   "44.29"   "6.29"
##                    "-5.138"  "12"   "48.68"   "7.139"
##                    "-5.141"  "2"    "29.91"   "5.429"
##                    "-5.143"  "32"   "78.52"   "9.046"
##                    "-5.148"  "30"   "70.56"   "7.878"
##                    "-5.153"  "15"   "48.81"   "6.561"
##                    "-5.155"  "3"    "26.85"   "4.626"
##                    "-5.158"  "1"    "21.67"   "4.008"
##                    "-5.178"  "52"   "98.51"   "8.982"
##                    "-5.195"  "6"    "34.12"   "5.413"
##                    "-5.195"  "12"   "42.1"    "5.794"
##                    "-5.195"  "29"   "69.59"   "7.814"
##                    "-5.2"    "216"  "296.96"  "15.569"
```

```
##                      "-5.2"     "64"    "118.83"   "10.544"
##                      "-5.203"   "13"    "44.45"    "6.044"
##                      "-5.21"    "35"    "78.12"    "8.276"
##                      "-5.212"   "94"    "153.25"   "11.367"
##                      "-5.221"   "8"     "41.23"    "6.364"
##                      "-5.221"   "3"     "26.31"    "4.465"
##                      "-5.224"   "210"   "288.56"   "15.04"
##                      "-5.229"   "67"    "121.05"   "10.337"
##                      "-5.23"    "0"     "23.67"    "4.526"
##                      "-5.232"   "23"    "64.7"     "7.97"
##                      "-5.242"   "43"    "84.69"    "7.953"
##                      "-5.246"   "29"    "75.23"    "8.812"
##                      "-5.257"   "438"   "563.11"   "23.799"
##                      "-5.258"   "7"     "39.17"    "6.118"
##                      "-5.263"   "70"    "128.34"   "11.085"
##                      "-5.264"   "98"    "160.38"   "11.85"
##                      "-5.269"   "25"    "67.72"    "8.108"
##                      "-5.27"    "7"     "32.28"    "4.797"
##                      "-5.274"   "209"   "287.45"   "14.875"
##                      "-5.285"   "864"   "1023.99"  "30.272"
##                      "-5.299"   "27"    "70.21"    "8.154"
##                      "-5.31"    "93"    "156.34"   "11.928"
##                      "-5.31"    "38"    "77.34"    "7.409"
##                      "-5.311"   "30"    "70.34"    "7.596"
##                      "-5.321"   "18"    "55.71"    "7.087"
##                      "-5.339"   "154"   "247.88"   "17.583"
##                      "-5.339"   "224"   "312.08"   "16.499"
##                      "-5.339"   "3"     "34.43"    "5.887"
##                      "-5.344"   "1169"  "1378.31"  "39.166"
##                      "-5.349"   "19"    "58.39"    "7.363"
##                      "-5.357"   "81"    "139.02"   "10.83"
##                      "-5.365"   "7"     "37.14"    "5.617"
##                      "-5.365"   "14"    "49.1"     "6.542"
##                      "-5.366"   "37"    "85.12"    "8.968"
##                      "-5.375"   "1"     "27.16"    "4.867"
##                      "-5.378"   "47"    "99.7"     "9.8"
##                      "-5.384"   "5"     "38.08"    "6.144"
##                      "-5.385"   "2"     "28.59"    "4.938"
##                      "-5.386"   "3"     "31.36"    "5.266"
##                      "-5.386"   "10"    "41.6"     "5.867"
##                      "-5.388"   "0"     "26.03"    "4.831"
##                      "-5.39"    "4"     "37.01"    "6.124"
##                      "-5.39"    "19"    "56.86"    "7.024"
##                      "-5.393"   "0"     "28.13"    "5.216"
##                      "-5.393"   "1"     "24.59"    "4.374"
##                      "-5.398"   "152"   "225.85"   "13.68"
##                      "-5.399"   "6"     "39.11"    "6.133"
##                      "-5.399"   "9"     "47.15"    "7.066"
##                      "-5.403"   "60"    "116.68"   "10.491"
##                      "-5.404"   "54"    "117.21"   "11.698"
##                      "-5.409"   "7"     "41.94"    "6.46"
##                      "-5.409"   "15"    "58.97"    "8.128"
##                      "-5.461"   "136"   "207.85"   "13.156"
##                      "-5.462"   "44"    "96.3"     "9.575"
```

```
##                   "-5.462"  "27"   "70.78"   "8.016"
##                   "-5.463"  "15"   "45.01"   "5.493"
##                   "-5.468"  "45"   "92.99"   "8.776"
##                   "-5.469"  "130"  "210.67"  "14.751"
##                   "-5.474"  "67"   "117"     "9.134"
##                   "-5.476"  "2"    "30.95"   "5.286"
##                   "-5.485"  "29"   "78.06"   "8.944"
##                   "-5.492"  "2"    "33.63"   "5.759"
##                   "-5.494"  "14"   "55.19"   "7.498"
##                   "-5.505"  "44"   "100.32"  "10.231"
##                   "-5.522"  "11"   "44.38"   "6.045"
##                   "-5.528"  "10"   "39.67"   "5.367"
##                   "-5.556"  "80"   "133.08"  "9.553"
##                   "-5.559"  "1"    "34.57"   "6.039"
##                   "-5.568"  "14"   "51.87"   "6.801"
##                   "-5.569"  "18"   "57.04"   "7.011"
##                   "-5.569"  "26"   "65.8"    "7.146"
##                   "-5.591"  "196"  "282.75"  "15.515"
##                   "-5.592"  "39"   "83.53"   "7.963"
##                   "-5.597"  "189"  "274.12"  "15.208"
##                   "-5.605"  "23"   "73.93"   "9.087"
##                   "-5.605"  "50"   "98.59"   "8.669"
##                   "-5.609"  "56"   "123.02"  "11.949"
##                   "-5.614"  "9"    "49.01"   "7.127"
##                   "-5.623"  "64"   "134.67"  "12.567"
##                   "-5.626"  "67"   "132.34"  "11.614"
##                   "-5.63"   "15"   "58.91"   "7.799"
##                   "-5.645"  "7"    "33.47"   "4.689"
##                   "-5.649"  "0"    "23.93"   "4.236"
##                   "-5.652"  "11"   "58.69"   "8.438"
##                   "-5.654"  "11"   "44.61"   "5.944"
##                   "-5.659"  "19"   "56.33"   "6.597"
##                   "-5.669"  "11"   "44.15"   "5.847"
##                   "-5.686"  "22"   "64.83"   "7.533"
##                   "-5.702"  "4"    "35.13"   "5.46"
##                   "-5.702"  "10"   "46.78"   "6.45"
##                   "-5.724"  "12"   "55.23"   "7.553"
##                   "-5.732"  "18"   "61.63"   "7.611"
##                   "-5.732"  "8"    "44.97"   "6.45"
##                   "-5.745"  "29"   "84.62"   "9.682"
##                   "-5.745"  "21"   "63.97"   "7.48"
##                   "-5.748"  "20"   "50.53"   "5.311"
##                   "-5.757"  "21"   "68.99"   "8.336"
##                   "-5.763"  "76"   "132.56"  "9.814"
##                   "-5.774"  "14"   "57.49"   "7.532"
##                   "-5.778"  "43"   "96.23"   "9.212"
##                   "-5.79"   "27"   "82.8"    "9.637"
##                   "-5.795"  "86"   "160.01"  "12.772"
##                   "-5.812"  "569"  "717.97"  "25.632"
##                   "-5.815"  "10"   "44.36"   "5.909"
##                   "-5.817"  "66"   "135.31"  "11.914"
##                   "-5.824"  "60"   "129.92"  "12.006"
##                   "-5.837"  "33"   "84.5"    "8.823"
##                   "-5.84"   "550"  "733.18"  "31.367"
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##                      "-5.842"  "15"    "59.63"   "7.639"
##                      "-5.843"  "6"     "41.19"   "6.023"
##                      "-5.844"  "64"    "130.49"  "11.378"
##                      "-5.845"  "0"     "28.52"   "4.879"
##                      "-5.861"  "0"     "24"      "4.095"
##                      "-5.879"  "8"     "45.55"   "6.387"
##                      "-5.884"  "4"     "39.18"   "5.979"
##                      "-5.89"   "216"   "326.99"  "18.845"
##                      "-5.898"  "21"    "67.72"   "7.921"
##                      "-5.899"  "1"     "38.66"   "6.384"
##                      "-5.904"  "51"    "110.7"   "10.111"
##                      "-5.905"  "4"     "38.02"   "5.761"
##                      "-5.907"  "120"   "198.16"  "13.233"
##                      "-5.917"  "4"     "38.35"   "5.806"
##                      "-5.923"  "31"    "85.12"   "9.137"
##                      "-5.957"  "4"     "31.22"   "4.57"
##                      "-5.958"  "79"    "139.04"  "10.076"
##                      "-5.963"  "36"    "85.74"   "8.342"
##                      "-5.967"  "4"     "37.47"   "5.609"
##                      "-5.97"   "661"   "858.19"  "33.03"
##                      "-5.983"  "30"    "88.27"   "9.739"
##                      "-6.02"   "225"   "338.7"   "18.886"
##                      "-6.022"  "12"    "52.12"   "6.663"
##                      "-6.043"  "26"    "81.22"   "9.138"
##                      "-6.05"   "2"     "35.87"   "5.599"
##                      "-6.069"  "9"     "41.17"   "5.301"
##                      "-6.076"  "19"    "60.32"   "6.8"
##                      "-6.086"  "19"    "61.94"   "7.055"
##                      "-6.086"  "2"     "44.22"   "6.938"
##                      "-6.095"  "17"    "62.48"   "7.462"
##                      "-6.102"  "5"     "42.02"   "6.067"
##                      "-6.106"  "21"    "66.18"   "7.4"
##                      "-6.108"  "283"   "398.34"  "18.884"
##                      "-6.115"  "26"    "84.79"   "9.614"
##                      "-6.116"  "59"    "121.5"   "10.218"
##                      "-6.121"  "89"    "162.91"  "12.076"
##                      "-6.123"  "24"    "81.19"   "9.341"
##                      "-6.128"  "156"   "259.46"  "16.882"
##                      "-6.129"  "26"    "70.57"   "7.271"
##                      "-6.14"   "8"     "51.29"   "7.05"
##                      "-6.143"  "85"    "159.11"  "12.064"
##                      "-6.149"  "56"    "134.69"  "12.797"
##                      "-6.15"   "202"   "310.6"   "17.66"
##                      "-6.156"  "39"    "102.64"  "10.338"
##                      "-6.166"  "506"   "663.55"  "25.551"
##                      "-6.179"  "23"    "79.3"    "9.112"
##                      "-6.184"  "11"    "44.13"   "5.357"
##                      "-6.186"  "25"    "72.37"   "7.658"
##                      "-6.201"  "19"    "63.69"   "7.206"
##                      "-6.21"   "33"    "88.07"   "8.867"
##                      "-6.215"  "19"    "64.61"   "7.339"
##                      "-6.219"  "18"    "57.68"   "6.38"
##                      "-6.24"   "11"    "55.51"   "7.133"
##                      "-6.245"  "24"    "80.02"   "8.97"
```

```
##                    "-6.266"  "75"   "144.2"   "11.044"
##                    "-6.27"   "2"    "42.45"   "6.452"
##                    "-6.291"  "74"   "153"     "12.558"
##                    "-6.293"  "62"   "144.12"  "13.049"
##                    "-6.295"  "45"   "109.53"  "10.251"
##                    "-6.321"  "38"   "112.24"  "11.745"
##                    "-6.338"  "88"   "157.81"  "11.015"
##                    "-6.355"  "53"   "127.14"  "11.667"
##                    "-6.363"  "10"   "49.09"   "6.143"
##                    "-6.367"  "158"  "259.13"  "15.884"
##                    "-6.38"   "63"   "134.35"  "11.184"
##                    "-6.382"  "1"    "26.36"   "3.973"
##                    "-6.405"  "15"   "63.63"   "7.593"
##                    "-6.407"  "998"  "1217.53" "34.265"
##                    "-6.408"  "30"   "88.58"   "9.141"
##                    "-6.418"  "44"   "104.27"  "9.391"
##                    "-6.419"  "354"  "487.25"  "20.759"
##                    "-6.428"  "51"   "112.4"   "9.552"
##                    "-6.432"  "563"  "716.37"  "23.843"
##                    "-6.437"  "28"   "87.22"   "9.2"
##                    "-6.456"  "321"  "442.51"  "18.821"
##                    "-6.499"  "12"   "53.53"   "6.39"
##                    "-6.5"    "68"   "139.11"  "10.94"
##                    "-6.502"  "269"  "376.3"   "16.504"
##                    "-6.514"  "99"   "178.52"  "12.208"
##                    "-6.531"  "387"  "528.21"  "21.621"
##                    "-6.562"  "22"   "75.67"   "8.179"
##                    "-6.575"  "37"   "94.19"   "8.698"
##                    "-6.58"   "160"  "251.01"  "13.83"
##                    "-6.594"  "33"   "93.28"   "9.142"
##                    "-6.614"  "4"    "38.47"   "5.212"
##                    "-6.62"   "2"    "39.3"    "5.634"
##                    "-6.623"  "57"   "126.55"  "10.502"
##                    "-6.633"  "49"   "103.6"   "8.231"
##                    "-6.634"  "6"    "52"      "6.934"
##                    "-6.634"  "68"   "132.45"  "9.716"
##                    "-6.692"  "25"   "94.12"   "10.329"
##                    "-6.704"  "47"   "109.81"  "9.369"
##                    "-6.721"  "155"  "257.16"  "15.201"
##                    "-6.743"  "15"   "60.32"   "6.721"
##                    "-6.765"  "8"    "56.1"    "7.11"
##                    "-6.775"  "26"   "91.57"   "9.678"
##                    "-6.784"  "26"   "81.82"   "8.228"
##                    "-6.79"   "66"   "154.16"  "12.984"
##                    "-6.859"  "626"  "785.1"   "23.195"
##                    "-6.889"  "3"    "52.49"   "7.184"
##                    "-6.895"  "34"   "90.67"   "8.219"
##                    "-6.908"  "176"  "291.46"  "16.715"
##                    "-6.944"  "560"  "746.77"  "26.897"
##                    "-6.991"  "6"    "43.79"   "5.405"
##                    "-7.104"  "96"   "196.26"  "14.113"
##                    "-7.126"  "1"    "51.22"   "7.048"
##                    "-7.138"  "10"   "52.63"   "5.972"
##                    "-7.171"  "88"   "173.19"  "11.88"
```

```
##                    "-7.207"  "22"   "80.24"    "8.081"
##                    "-7.228"  "7"    "49.38"    "5.863"
##                    "-7.23"   "11"   "56.15"    "6.245"
##                    "-7.241"  "102"  "189.18"   "12.039"
##                    "-7.244"  "13"   "69.66"    "7.822"
##                    "-7.244"  "58"   "142.45"   "11.658"
##                    "-7.272"  "176"  "290.67"   "15.769"
##                    "-7.284"  "55"   "122.07"   "9.208"
##                    "-7.321"  "45"   "130.57"   "11.689"
##                    "-7.323"  "17"   "76.09"    "8.069"
##                    "-7.325"  "19"   "74.53"    "7.58"
##                    "-7.327"  "35"   "102.74"   "9.245"
##                    "-7.334"  "91"   "203.73"   "15.371"
##                    "-7.334"  "69"   "141.6"    "9.899"
##                    "-7.407"  "6"    "58.82"    "7.131"
##                    "-7.413"  "44"   "127.24"   "11.23"
##                    "-7.427"  "4"    "67.81"    "8.591"
##                    "-7.435"  "1"    "46.52"    "6.122"
##                    "-7.521"  "139"  "241.47"   "13.624"
##                    "-7.522"  "48"   "136.74"   "11.797"
##                    "-7.531"  "6"    "55.49"    "6.571"
##                    "-7.565"  "693"  "977.94"   "37.667"
##                    "-7.573"  "16"   "83.33"    "8.891"
##                    "-7.583"  "37"   "109.79"   "9.599"
##                    "-7.755"  "39"   "106.64"   "8.722"
##                    "-7.786"  "4"    "56.66"    "6.763"
##                    "-7.826"  "302"  "460.75"   "20.285"
##                    "-7.827"  "9"    "74.84"    "8.412"
##                    "-7.841"  "6"    "80.73"    "9.53"
##                    "-7.851"  "68"   "158.16"   "11.484"
##                    "-7.876"  "251"  "399.91"   "18.907"
##                    "-7.936"  "31"   "104.68"   "9.284"
##                    "-7.986"  "20"   "95.57"    "9.463"
##                    "-8.022"  "16"   "77.72"    "7.694"
##                    "-8.061"  "176"  "320.14"   "17.882"
##                    "-8.092"  "50"   "144.85"   "11.722"
##                    "-8.102"  "828"  "1108.54"  "34.627"
##                    "-8.105"  "104"  "241.8"    "17.002"
##                    "-8.111"  "3"    "53.95"    "6.282"
##                    "-8.134"  "267"  "442.11"   "21.528"
##                    "-8.187"  "157"  "303.86"   "17.938"
##                    "-8.203"  "34"   "119.98"   "10.481"
##                    "-8.206"  "53"   "157.61"   "12.748"
##                    "-8.255"  "75"   "183.95"   "13.198"
##                    "-8.312"  "67"   "172.68"   "12.714"
##                    "-8.348"  "59"   "157.5"    "11.799"
##                    "-8.412"  "218"  "379.94"   "19.252"
##                    "-8.459"  "0"    "62.26"    "7.36"
##                    "-8.467"  "4"    "69.18"    "7.698"
##                    "-8.529"  "165"  "321.54"   "18.354"
##                    "-8.551"  "17"   "110.63"   "10.95"
##                    "-8.568"  "31"   "117.52"   "10.098"
##                    "-8.569"  "25"   "115.14"   "10.519"
##                    "-8.639"  "63"   "182.45"   "13.827"
```

```
##                     "-8.857"  "7"    "82.89"   "8.568"
##                     "-9.005"  "347"  "569.6"   "24.719"
##                     "-9.044"  "38"   "141.1"   "11.4"
##                     "-9.068"  "133"  "286.49"  "16.927"
##                     "-9.115"  "214"  "368.99"  "17.003"
##                     "-9.13"   "52"   "160.57"  "11.891"
##                     "-9.138"  "31"   "114.35"  "9.121"
##                     "-9.143"  "90"   "224.15"  "14.673"
##                     "-9.181"  "41"   "134.2"   "10.151"
##                     "-9.221"  "819"  "1182.66" "39.439"
##                     "-9.239"  "169"  "338.54"  "18.351"
##                     "-9.351"  "108"  "252.55"  "15.458"
##                     "-9.384"  "117"  "259.63"  "15.199"
##                     "-9.409"  "247"  "425.05"  "18.923"
##                     "-9.576"  "1"    "80.78"   "8.331"
##                     "-9.798"  "364"  "597.4"   "23.821"
##                     "-9.802"  "204"  "409.34"  "20.948"
##                     "-9.877"  "168"  "340.86"  "17.502"
##                     "-9.947"  "226"  "429.03"  "20.412"
##                     "-10.001" "796"  "1126.6"  "33.058"
##                     "-10.026" "20"   "111.43"  "9.119"
##                     "-10.08"  "440"  "722.83"  "28.059"
##                     "-10.106" "70"   "204.15"  "13.274"
##                     "-10.163" "94"   "232.19"  "13.597"
##                     "-10.164" "235"  "472.51"  "23.367"
##                     "-10.197" "178"  "379.58"  "19.768"
##                     "-10.259" "50"   "203.11"  "14.925"
##                     "-10.326" "60"   "184.57"  "12.063"
##                     "-10.582" "170"  "347.57"  "16.78"
##                     "-10.622" "26"   "155.76"  "12.216"
##                     "-10.694" "1"    "115.27"  "10.685"
##                     "-10.723" "37"   "168.96"  "12.307"
##                     "-10.842" "63"   "184.13"  "11.172"
##                     "-10.87"  "322"  "533.69"  "19.475"
##                     "-10.924" "166"  "358.38"  "17.611"
##                     "-11.518" "643"  "984.58"  "29.655"
##                     "-11.605" "63"   "229.02"  "14.305"
##                     "-11.62"  "156"  "366.96"  "18.154"
##                     "-11.777" "161"  "398.83"  "20.195"
##                     "-11.798" "81"   "239.49"  "13.433"
##                     "-11.836" "0"    "105.01"  "8.872"
##                     "-12.026" "132"  "382.59"  "20.838"
##                     "-12.157" "35"   "201.1"   "13.663"
##                     "-12.311" "468"  "753.39"  "23.182"
##                     "-12.878" "4"    "179.58"  "13.634"
##                     "-13.121" "248"  "552.84"  "23.233"
##                     "-13.217" "164"  "368.49"  "15.471"
##                     "-13.518" "61"   "310.53"  "18.46"
##                     "-13.556" "51"   "265.51"  "15.824"
##                     "-13.589" "13"   "201.38"  "13.863"
##                     "-13.621" "38"   "195.79"  "11.584"
##                     "-13.847" "233"  "508.05"  "19.864"
##                     "-13.898" "98"   "326.7"   "16.456"
##                     "-13.973" "795"  "1270.48" "34.028"
```

```
##                   "-14.075" "176"  "482.56"  "21.781"
##                   "-14.127" "980"  "1519.79" "38.209"
##                   "-14.767" "22"   "195.4"   "11.742"
##                   "-14.796" "140"  "476.01"  "22.71"
##                   "-14.878" "141"  "450.18"  "20.78"
##                   "-15.211" "18"   "209.76"  "12.607"
##                   "-15.284" "476"  "882.77"  "26.614"
##                   "-15.351" "984"  "1542.46" "36.381"
##                   "-15.528" "291"  "710.55"  "27.019"
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##                   "-16.635" "903"  "1506.6"  "36.285"
##                   "-16.885" "806"  "1383.55" "34.204"
##                   "-17.713" "203"  "623.19"  "23.722"
##                   "-18.117" "9"    "262.02"  "13.966"
##                   "-18.562" "82"   "451.78"  "19.922"
##                   "-19.363" "1824" "2774.59" "49.093"
##                   "-20.09"  "604"  "1450.03" "42.111"
##                   "-32.463" "766"  "2003.35" "38.116"
##                   "-38.401" "293"  "1765.44" "38.344"
##                   "-38.666" "1234" "3048.76" "46.934"
```

```r
write.table(bp.enriched.terms, file="output/genes.bp.txt", sep="\t", row.names = F, col.names = F, quote

cc.enriched.terms <- c("GO.ID", "GO.Term", "zscore", "obs", "mean", "std")
for (i in 1:length(cc.enrich.list)) {
  id <- as.character(cc.enrich.list[i])
  term <- Term(GOID(id))
  z.gene <- z.cc[i]
  cc.enriched.terms <- rbind(cc.enriched.terms, c(id, term, z.gene, cc.obs[i], cc.mean[i], cc.std[i]))
}
cc.enriched.terms
```

```
##
## cc.enriched.terms "GO.ID"
##                   "GO:0005747"
##                   "GO:0005743"
##                   "GO:0005739"
##                   "GO:0005759"
##                   "GO:0005751"
##                   "GO:0030964"
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##                   "GO:0043209"
##                   "GO:0005763"
##                   "GO:0005761"
##                   "GO:0031314"
##                   "GO:0005744"
```

```
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```

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696

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##                     "mitochondrial inner membrane"
##                     "mitochondrion"
##                     "mitochondrial matrix"
##                     "mitochondrial respiratory chain complex IV"
##                     "NADH dehydrogenase complex"
##                     "mitochondrial respiratory chain"
##                     "mitochondrial respiratory chain complex III"
##                     "respiratory chain complex IV"
##                     "mitochondrial membrane"
##                     "mitochondrial intermembrane space"
##                     "mitochondrial large ribosomal subunit"
##                     "mitochondrial respiratory chain supercomplex"
##                     "respiratory chain"
##                     "integral component of mitochondrial inner membrane"
##                     "myelin sheath"
##                     "mitochondrial small ribosomal subunit"
##                     "mitochondrial ribosome"
##                     "extrinsic component of mitochondrial inner membrane"
##                     "TIM23 mitochondrial import inner membrane translocase complex"
##                     "vacuolar proton-transporting V-type ATPase complex"
##                     "proton-transporting two-sector ATPase complex"
##                     "mitochondrial nucleoid"
##                     "mitochondrial ribonuclease P complex"
##                     "mitochondrial proton-transporting ATP synthase complex"
##                     "plasma membrane respiratory chain complex I"
##                     "proton-transporting V-type ATPase, V0 domain"
##                     "mitochondrial proton-transporting ATP synthase complex, coupling factor F(o)"
##                     "ficolin-1-rich granule lumen"
```

```
##                      "proteasome accessory complex"
##                      "mitochondrial respiratory chain complex II, succinate dehydrogenase complex (ubiq
##                      "secretory granule lumen"
##                      "pyruvate dehydrogenase complex"
##                      "TIM22 mitochondrial import inner membrane insertion complex"
##                      "proton-transporting V-type ATPase, V1 domain"
##                      "vacuolar proton-transporting V-type ATPase, V1 domain"
##                      "oxoglutarate dehydrogenase complex"
##                      "extracellular exosome"
##                      "integral component of membrane"
##                      "vacuolar membrane"
##                      "azurophil granule membrane"
##                      "pore complex"
##                      "PAM complex, Tim23 associated import motor"
##                      "proton-transporting ATP synthase complex, coupling factor F(o)"
##                      "supramolecular fiber"
##                      "inclusion body"
##                      "proteasome complex"
##                      "mitochondrial intermembrane space protein transporter complex"
##                      "proteasome regulatory particle"
##                      "proton-transporting two-sector ATPase complex, catalytic domain"
##                      "plasma membrane proton-transporting V-type ATPase complex"
##                      "endopeptidase Clp complex"
##                      "mitochondrial outer membrane translocase complex"
##                      "proteasome regulatory particle, base subcomplex"
##                      "endoplasmic reticulum tubular network membrane"
##                      "glycine cleavage complex"
##                      "proteasome regulatory particle, lid subcomplex"
##                      "lysosomal membrane"
##                      "MMXD complex"
##                      "melanosome"
##                      "anchored component of synaptic vesicle membrane"
##                      "mitochondrial outer membrane"
##                      "lipid droplet"
##                      "EKC/KEOPS complex"
##                      "succinate-CoA ligase complex (GDP-forming)"
##                      "MICOS complex"
##                      "peroxisomal membrane"
##                      "acrosomal matrix"
##                      "nuclear outer membrane"
##                      "sperm head"
##                      "I band"
##                      "peroxisome"
##                      "phagocytic vesicle membrane"
##                      "mitochondrial pyruvate dehydrogenase complex"
##                      "host cell mitochondrial intermembrane space"
##                      "coated vesicle"
##                      "cytosolic proteasome complex"
##                      "zona pellucida receptor complex"
##                      "extrinsic component of lysosome membrane"
##                      "chaperonin-containing T-complex"
##                      "vacuolar proton-transporting V-type ATPase, V0 domain"
##                      "integral component of mitochondrial outer membrane"
##                      "mitochondrial sorting and assembly machinery complex"
```

```
##                    "phosphopyruvate hydratase complex"
##                    "peroxisomal matrix"
##                    "microvillus"
##                    "mitochondrial proton-transporting ATP synthase, stator stalk"
##                    "respiratory chain complex II"
##                    "platelet alpha granule membrane"
##                    "cell body"
##                    "intrinsic component of mitochondrial inner membrane"
##                    "azurophil granule lumen"
##                    "insulin-responsive compartment"
##                    "sperm mitochondrial sheath"
##                    "mitochondrial permeability transition pore complex"
##                    "blood microparticle"
##                    "glycerol-3-phosphate dehydrogenase complex"
##                    "cytochrome complex"
##                    "platelet dense tubular network membrane"
##                    "presynaptic cytosol"
##                    "6-phosphofructokinase complex"
##                    "proton-transporting V-type ATPase complex"
##                    "multivesicular body"
##                    "integral component of mitochondrial membrane"
##                    "mitochondrial alpha-ketoglutarate dehydrogenase complex"
##                    "dolichol-phosphate-mannose synthase complex"
##                    "microtubule"
##                    "late endosome"
##                    "spot adherens junction"
##                    "nuclear proteasome complex"
##                    "L-cysteine desulfurase complex"
##                    "plasma membrane succinate dehydrogenase complex"
##                    "tertiary granule lumen"
##                    "lysosome"
##                    "proteasome storage granule"
##                    "eukaryotic translation elongation factor 1 complex"
##                    "early endosome"
##                    "M band"
##                    "tricarboxylic acid cycle enzyme complex"
##                    "cytoplasmic side of lysosomal membrane"
##                    "methionine adenosyltransferase complex"
##                    "sarcoplasmic reticulum membrane"
##                    "mitochondrial envelope"
##                    "endoplasmic reticulum"
##                    "T-tubule"
##                    "meiotic spindle"
##                    "cortical actin cytoskeleton"
##                    "mitochondrial oxoglutarate dehydrogenase complex"
##                    "Mitochondria-associated ER Membrane"
##                    "protein phosphatase type 2A complex"
##                    "actomyosin, actin portion"
##                    "clathrin complex"
##                    "MutSbeta complex"
##                    "lipopolysaccharide receptor complex"
##                    "extrinsic component of synaptic vesicle membrane"
##                    "anchored component of the cytoplasmic side of the plasma membrane"
##                    "mitochondrial endopeptidase Clp complex"
```

```
##                      "melanosome membrane"
##                      "nucleosome"
##                      "CatSper complex"
##                      "nascent polypeptide-associated complex"
##                      "cytoplasmic side of membrane"
##                      "extrinsic component of organelle membrane"
##                      "endomembrane system"
##                      "autophagosome"
##                      "cAMP-dependent protein kinase complex"
##                      "ER membrane protein complex"
##                      "sarcoplasmic reticulum"
##                      "autolysosome"
##                      "smooth muscle contractile fiber"
##                      "autophagosome membrane"
##                      "sperm principal piece"
##                      "filopodium"
##                      "cytoplasmic side of endoplasmic reticulum membrane"
##                      "cyclin-dependent protein kinase activating kinase holoenzyme complex"
##                      "MutSalpha complex"
##                      "mitochondrial proton-transporting ATP synthase complex, catalytic core F(1)"
##                      "dense body"
##                      "intrinsic component of mitochondrial outer membrane"
##                      "eukaryotic translation initiation factor 2B complex"
##                      "terminal cisterna"
##                      "sperm annulus"
##                      "neuron projection terminus"
##                      "cerebellar mossy fiber"
##                      "terminal bouton"
##                      "calcineurin complex"
##                      "microtubule cytoskeleton"
##                      "COPI-coated vesicle"
##                      "Lewy body"
##                      "mismatch repair complex"
##                      "apical plasma membrane"
##                      "BAK complex"
##                      "clathrin coat of trans-Golgi network vesicle"
##                      "mitochondrial processing peptidase complex"
##                      "podosome core"
##                      "Sec61 translocon complex"
##                      "inward rectifier potassium channel complex"
##                      "ryanodine receptor complex"
##                      "phenylalanine-tRNA ligase complex"
##                      "lumenal side of lysosomal membrane"
##                      "cortical cytoskeleton"
##                      "endosome membrane"
##                      "postsynaptic cytosol"
##                      "internode region of axon"
##                      "dendrite cytoplasm"
##                      "nucleotide-activated protein kinase complex"
##                      "integrin alpha4-beta7 complex"
##                      "3-methylcrotonyl-CoA carboxylase complex, mitochondrial"
##                      "methylcrotonoyl-CoA carboxylase complex"
##                      "angiogenin-PRI complex"
##                      "sorting endosome"
```

```
##                     "cytoplasmic side of early endosome membrane"
##                     "eukaryotic translation initiation factor 4F complex"
##                     "alpha9-beta1 integrin-vascular cell adhesion molecule-1 complex"
##                     "aminoacyl-tRNA synthetase multienzyme complex"
##                     "trans-Golgi network transport vesicle"
##                     "amphisome"
##                     "male germ cell nucleus"
##                     "CIA complex"
##                     "mitochondrial crista junction"
##                     "endoplasmic reticulum chaperone complex"
##                     "aggresome"
##                     "outer mitochondrial membrane protein complex"
##                     "connexin complex"
##                     "gamma-secretase complex"
##                     "VCP-NSFL1C complex"
##                     "actin filament bundle"
##                     "COP9 signalosome"
##                     "neuron spine"
##                     "ionotropic glutamate receptor complex"
##                     "motile cilium"
##                     "dense core granule"
##                     "sarcomere"
##                     "synaptic vesicle"
##                     "apoptosome"
##                     "pseudopodium"
##                     "COPI-coated vesicle membrane"
##                     "postsynaptic early endosome"
##                     "isoamylase complex"
##                     "RISC complex"
##                     "Atg12-Atg5-Atg16 complex"
##                     "concave side of sperm head"
##                     "integral component of endoplasmic reticulum membrane"
##                     "potassium channel complex"
##                     "sodium:potassium-exchanging ATPase complex"
##                     "cytosol"
##                     "postsynaptic actin cytoskeleton"
##                     "Golgi stack"
##                     "pyruvate kinase complex"
##                     "platelet alpha granule lumen"
##                     "cytoplasmic side of mitochondrial outer membrane"
##                     "caveola neck"
##                     "rough endoplasmic reticulum membrane"
##                     "presynapse"
##                     "ATPase complex"
##                     "DNA-dependent protein kinase complex"
##                     "tubulin complex"
##                     "procollagen-proline 4-dioxygenase complex"
##                     "oligosaccharyltransferase complex"
##                     "ooplasm"
##                     "sperm head plasma membrane"
##                     "3M complex"
##                     "voltage-gated potassium channel complex"
##                     "septin ring"
##                     "septin complex"
```

```
##                    "septin filament array"
##                    "transcription factor AP-1 complex"
##                    "acrosomal vesicle"
##                    "GMP reductase complex"
##                    "Cul7-RING ubiquitin ligase complex"
##                    "R2TP complex"
##                    "mitochondrial degradosome"
##                    "endoplasmic reticulum exit site"
##                    "F-actin capping protein complex"
##                    "smooth endoplasmic reticulum"
##                    "chromatoid body"
##                    "BRISC complex"
##                    "aryl hydrocarbon receptor complex"
##                    "juxtaparanode region of axon"
##                    "ribose phosphate diphosphokinase complex"
##                    "nuclear periphery"
##                    "Bcl-2 family protein complex"
##                    "clathrin-coated vesicle"
##                    "ribonucleoside-diphosphate reductase complex"
##                    "GAIT complex"
##                    "Golgi-associated vesicle"
##                    "cyclin A1-CDK2 complex"
##                    "meiotic spindle pole"
##                    "endoplasmic reticulum membrane"
##                    "vesicle"
##                    "multivesicular body, internal vesicle"
##                    "inward rectifying potassium channel"
##                    "m-AAA complex"
##                    "kinocilium"
##                    "MLL1 complex"
##                    "GET complex"
##                    "sperm connecting piece"
##                    "glucosidase II complex"
##                    "GID complex"
##                    "calyx of Held"
##                    "vesicle membrane"
##                    "axoneme"
##                    "phagophore assembly site membrane"
##                    "ciliary base"
##                    "clathrin-sculpted gamma-aminobutyric acid transport vesicle membrane"
##                    "BAT3 complex"
##                    "dystrophin-associated glycoprotein complex"
##                    "chaperone complex"
##                    "RNA nuclear export complex"
##                    "actin cap"
##                    "uniplex complex"
##                    "COPI vesicle coat"
##                    "postsynaptic density membrane"
##                    "invadopodium"
##                    "NuA4 histone acetyltransferase complex"
##                    "synaptic vesicle membrane"
##                    "clathrin coat"
##                    "AMPA glutamate receptor complex"
##                    "GATOR1 complex"
```

```
##                      "postsynaptic recycling endosome"
##                      "hemoglobin complex"
##                      "katanin complex"
##                      "RAVE complex"
##                      "endoplasmic reticulum quality control compartment"
##                      "Derlin-1 retrotranslocation complex"
##                      "synaptic membrane"
##                      "mitotic spindle microtubule"
##                      "endoplasmic reticulum tubular network"
##                      "Sec62/Sec63 complex"
##                      "multivesicular body, internal vesicle lumen"
##                      "VCP-NPL4-UFD1 AAA ATPase complex"
##                      "sperm fibrous sheath"
##                      "BAX complex"
##                      "glycogen granule"
##                      "I-kappaB/NF-kappaB complex"
##                      "NELF complex"
##                      "mRNA cap binding complex"
##                      "IkappaB kinase complex"
##                      "calcium channel complex"
##                      "membrane microdomain"
##                      "lysosomal matrix"
##                      "centralspindlin complex"
##                      "serine-type endopeptidase complex"
##                      "integral component of autophagosome membrane"
##                      "nucleotide-excision repair factor 1 complex"
##                      "preribosome, small subunit precursor"
##                      "serine/threonine protein kinase complex"
##                      "actin cytoskeleton"
##                      "Swr1 complex"
##                      "growth hormone receptor complex"
##                      "ciliary pocket membrane"
##                      "cytoplasm"
##                      "RES complex"
##                      "brush border membrane"
##                      "mitochondrion-derived vesicle"
##                      "cell periphery"
##                      "Shu complex"
##                      "Golgi cis cisterna membrane"
##                      "contractile fiber"
##                      "axonemal dynein complex"
##                      "extrinsic component of plasma membrane"
##                      "membrane raft"
##                      "terminal web"
##                      "sarcoglycan complex"
##                      "endosome to plasma membrane transport vesicle"
##                      "fascia adherens"
##                      "platelet dense granule membrane"
##                      "membrane"
##                      "cyclin E2-CDK2 complex"
##                      "phosphatidylinositol 3-kinase complex, class IB"
##                      "cytoplasmic vesicle membrane"
##                      "eukaryotic translation initiation factor 2 complex"
##                      "Y chromosome"
```

```
##                     "polar microtubule"
##                     "clathrin coat of coated pit"
##                     "nucleotide-excision repair complex"
##                     "plasma membrane bounded cell projection cytoplasm"
##                     "cyclin A2-CDK2 complex"
##                     "phagolysosome membrane"
##                     "neuronal dense core vesicle"
##                     "extracellular vesicle"
##                     "Golgi-associated vesicle lumen"
##                     "outer dense fiber"
##                     "plasma membrane raft"
##                     "CCAAT-binding factor complex"
##                     "ER ubiquitin ligase complex"
##                     "GTPase activator complex"
##                     "WASH complex"
##                     "nuclear pore"
##                     "late endosome membrane"
##                     "collagen type V trimer"
##                     "alveolar lamellar body"
##                     "rough endoplasmic reticulum"
##                     "collagen type XI trimer"
##                     "Dcp1-Dcp2 complex"
##                     "dendritic growth cone"
##                     "Bcl3/NF-kappaB2 complex"
##                     "neuron projection membrane"
##                     "varicosity"
##                     "MHC class I protein complex"
##                     "glutamyl-tRNA(Gln) amidotransferase complex"
##                     "cyclin E1-CDK2 complex"
##                     "VCB complex"
##                     "nucleolus organizer region"
##                     "X chromosome"
##                     "Rad51C-XRCC3 complex"
##                     "chiasma"
##                     "late recombination nodule"
##                     "Golgi cis cisterna"
##                     "excitatory synapse"
##                     "intrinsic component of external side of plasma membrane"
##                     "cytoplasmic stress granule"
##                     "cytoplasmic side of plasma membrane"
##                     "proteasome core complex, beta-subunit complex"
##                     "EARP complex"
##                     "cullin-RING ubiquitin ligase complex"
##                     "stereocilium shaft"
##                     "stereocilium base"
##                     "ERCC4-ERCC1 complex"
##                     "endoplasmic reticulum-Golgi intermediate compartment"
##                     "axonal growth cone"
##                     "sex chromosome"
##                     "clathrin adaptor complex"
##                     "prefoldin complex"
##                     "PCNA-p21 complex"
##                     "multivesicular body lumen"
##                     "phosphorylase kinase complex"
```

```
##                     "MHC class I peptide loading complex"
##                     "early endosome membrane"
##                     "outer acrosomal membrane"
##                     "DNA polymerase III complex"
##                     "apical cortex"
##                     "DNA ligase IV complex"
##                     "PCNA complex"
##                     "large ribosomal subunit"
##                     "phosphatidylinositol 3-kinase complex, class III"
##                     "Shc-EGFR complex"
##                     "sarcoplasmic reticulum lumen"
##                     "ribbon synapse"
##                     "Ire1 complex"
##                     "neuronal cell body"
##                     "GARP complex"
##                     "P granule"
##                     "U4atac snRNP"
##                     "cis-Golgi network membrane"
##                     "extrinsic component of mitochondrial outer membrane"
##                     NA
##                     "cell wall"
##                     "mitochondrial proton-transporting ATP synthase, catalytic core"
##                     "guanylate cyclase complex, soluble"
##                     "longitudinal sarcoplasmic reticulum"
##                     "terminal cisterna lumen"
##                     "coated vesicle membrane"
##                     "RNA polymerase complex"
##                     "intrinsic component of peroxisomal membrane"
##                     "uropod membrane"
##                     "acrosomal lumen"
##                     "nuclear replisome"
##                     "C-fiber"
##                     "proton-transporting ATP synthase complex"
##                     "proton-transporting ATP synthase complex, catalytic core F(1)"
##                     "lysosomal proton-transporting V-type ATPase complex"
##                     "inflammasome complex"
##                     "basal ectoplasmic specialization"
##                     "integrin alphaIIb-beta3 complex"
##                     "elongin complex"
##                     "alpha9-beta1 integrin-ADAM8 complex"
##                     "axonemal outer doublet"
##                     "A axonemal microtubule"
##                     "sweet taste receptor complex"
##                     "Cry-Per complex"
##                     "axonemal central pair projection"
##                     "specific granule membrane"
##                     "radial spoke"
##                     "calcium- and calmodulin-dependent protein kinase complex"
##                     "glomerular endothelium fenestra"
##                     "hyaluranon cable"
##                     "platelet dense granule"
##                     "membrane-bounded organelle"
##                     "tRNA-specific adenosine-34 deaminase complex"
##                     "prominosome"
```

```
##                    "9+0 motile cilium"
##                    "proximal portion of axoneme"
##                    "serotonin-activated cation-selective channel complex"
##                    "granular vesicle"
##                    "paranodal junction"
##                    "SUMO activating enzyme complex"
##                    "protein serine/threonine phosphatase complex"
##                    "cortical granule"
##                    "leading edge of lamellipodium"
##                    "radial spoke stalk"
##                    "plasma lipoprotein particle"
##                    "chromaffin granule lumen"
##                    "oligosaccharyltransferase I complex"
##                    "Tle3-Aes complex"
##                    "nuclear nucleosome"
##                    "collagen type XIII trimer"
##                    "axonemal basal plate"
##                    "oxidoreductase complex"
##                    "outer membrane"
##                    "AP-5 adaptor complex"
##                    "cytolytic granule"
##                    "integrin alpha8-beta1 complex"
##                    "cytoplasmic chromatin"
##                    "perinuclear theca"
##                    "integrin alpha9-beta1 complex"
##                    "inner dynein arm"
##                    "insulin-like growth factor binary complex"
##                    "pericellular basket"
##                    "mitochondrial crista"
##                    "apical plasma membrane urothelial plaque"
##                    "Golgi apparatus"
##                    "zymogen granule membrane"
##                    "collagen type XVI trimer"
##                    "secondary lysosome"
##                    "USH2 complex"
##                    "Pwp2p-containing subcomplex of 90S preribosome"
##                    "interleukin-13 receptor complex"
##                    "muscle tendon junction"
##                    "organelle inner membrane"
##                    "DRM complex"
##                    "distal portion of axoneme"
##                    "inhibin B complex"
##                    "cone matrix sheath"
##                    "lamellar body membrane"
##                    "alveolar lamellar body membrane"
##                    "extrinsic component of presynaptic active zone membrane"
##                    "axonemal central apparatus"
##                    "peroxisomal importomer complex"
##                    "subsarcolemmal mitochondrion"
##                    "interfibrillar mitochondrion"
##                    "rhabdomere"
##                    "interphotoreceptor matrix"
##                    "autophagosome lumen"
##                    "subapical complex"
```

```
##                    "extrinsic component of synaptic membrane"
##                    "CST complex"
##                    "mitochondrial chromosome"
##                    "female germ cell nucleus"
##                    "cytoplasmic region"
##                    "Slx1-Slx4 complex"
##                    "phosphatidylinositol 3-kinase complex, class III, type I"
##                    "phosphatidylinositol 3-kinase complex, class III, type II"
##                    "BLOC-3 complex"
##                    "mannosyltransferase complex"
##                    "integral component of external side of plasma membrane"
##                    "calcium ion-transporting ATPase complex"
##                    "Toll-like receptor 2-Toll-like receptor 6 protein complex"
##                    "egg coat"
##                    "Cdc48p-Npl4p-Vms1p AAA ATPase complex"
##                    "U2-type post-spliceosomal complex"
##                    "sperm end piece"
##                    "perivitelline space"
##                    "transcription factor TFIIH holo complex"
##                    "activin A complex"
##                    "epidermal lamellar body"
##                    "paraferritin complex"
##                    "fungal-type vacuole membrane"
##                    "Swi5-Sfr1 complex"
##                    "collagen type XV trimer"
##                    "4-aminobutyrate transaminase complex"
##                    "secretory vesicle"
##                    "recycling endosome lumen"
##                    "apical cytoplasm"
##                    "matrix side of mitochondrial inner membrane"
##                    "postsynaptic endocytic zone"
##                    "glycine-gated chloride channel complex"
##                    "CRLF-CLCF1 complex"
##                    "extrinsic component of postsynaptic endosome membrane"
##                    "costamere"
##                    "collagen type XII trimer"
##                    "endolysosome"
##                    "intracellular vesicle"
##                    "mitochondrial fatty acid beta-oxidation multienzyme complex"
##                    "COPII vesicle coat"
##                    "striated muscle thin filament"
##                    "Rab-protein geranylgeranyltransferase complex"
##                    "intrinsic component of endosome membrane"
##                    "mitochondrial inner membrane peptidase complex"
##                    "serine C-palmitoyltransferase complex"
##                    "dense fibrillar component"
##                    "extrinsic component of postsynaptic early endosome membrane"
##                    "gap junction"
##                    "pseudopodium membrane"
##                    "dense core granule membrane"
##                    "hinge region between urothelial plaques of apical plasma membrane"
##                    "microvesicle"
##                    "phagocytic vesicle"
##                    "cytoskeletal calyx"
```

```
##                       "inhibin A complex"
##                       "type III intermediate filament"
##                       "slit diaphragm"
##                       "nuclear ubiquitin ligase complex"
##                       "PeBoW complex"
##                       "GPI-anchor transamidase complex"
##                       "Parkin-FBXW7-Cul1 ubiquitin ligase complex"
##                       "intrinsic component of endoplasmic reticulum membrane"
##                       "integrin alphaM-beta2 complex"
##                       "RNA polymerase transcription factor SL1 complex"
##                       "protein C inhibitor-TMPRSS7 complex"
##                       "protein C inhibitor-TMPRSS11E complex"
##                       "protein C inhibitor-PLAT complex"
##                       "protein C inhibitor-PLAU complex"
##                       "protein C inhibitor-thrombin complex"
##                       "protein C inhibitor-KLK3 complex"
##                       "protein C inhibitor-plasma kallikrein complex"
##                       "protein C inhibitor-coagulation factor V complex"
##                       "protein C inhibitor-coagulation factor Xa complex"
##                       "protein C inhibitor-coagulation factor XI complex"
##                       "anchored component of postsynaptic recycling endosome membrane"
##                       "ectoplasm"
##                       "integral component of omegasome membrane"
##                       "NOS2-CD74 complex"
##                       "late endosome lumen"
##                       "zeta DNA polymerase complex"
##                       "meprin A complex"
##                       "Cul2-RING ubiquitin ligase complex"
##                       "striated muscle dense body"
##                       "anchored component of postsynaptic density membrane"
##                       "protein kinase 5 complex"
##                       "distal axon"
##                       "dimeric IgA immunoglobulin complex"
##                       "HCN channel complex"
##                       "interleukin-28 receptor complex"
##                       "integrin alphaL-beta2 complex"
##                       "cone cell pedicle"
##                       "tethering complex"
##                       "Ino80 complex"
##                       "Schwann cell microvillus"
##                       "integral component of neuronal dense core vesicle membrane"
##                       "CERF complex"
##                       "integrin alpha7-beta1 complex"
##                       "RNA polymerase I transcription factor complex"
##                       "presynaptic endosome"
##                       "replisome"
##                       "Nem1-Spo7 phosphatase complex"
##                       "transverse filament"
##                       "Mon1-Ccz1 complex"
##                       "integrin alpha11-beta1 complex"
##                       "integrin alpha10-beta1 complex"
##                       "integrin alpha4-beta1 complex"
##                       "EMILIN complex"
##                       "protein-lipid complex"
```

```
##                 "perineuronal net"
##                 "Gtr1-Gtr2 GTPase complex"
##                 "mesaxon"
##                 "fibrinogen complex"
##                 "Golgi cisterna"
##                 "cell-substrate junction"
##                 "integrin alphav-beta6 complex"
##                 "postsynaptic specialization of symmetric synapse"
##                 "viral integration complex"
##                 "6-phosphofructo-2-kinase/fructose-2,6-biphosphatase complex"
##                 "cytoplasmic side of late endosome membrane"
##                 "TRAPPI protein complex"
##                 "actin cortical patch"
##                 "actin filament"
##                 "tumor necrosis factor receptor superfamily complex"
##                 "collagen type III trimer"
##                 "collagen type VIII trimer"
##                 "myosin VII complex"
##                 "upper tip-link density"
##                 "nucleus-vacuole junction"
##                 "intrinsic component of the cytoplasmic side of the plasma membrane"
##                 "integrin alphav-beta8 complex"
##                 "Golgi trans cisterna"
##                 "smooth endoplasmic reticulum membrane"
##                 "ciliary plasm"
##                 "presynaptic cytoskeleton"
##                 "postsynaptic specialization membrane"
##                 "integral component of spine apparatus membrane"
##                 "axon"
##                 "mRNA cap methyltransferase complex"
##                 "intermediate filament cytoskeleton"
##                 "postsynaptic endosome"
##                 "cytoplasmic cyclin-dependent protein kinase holoenzyme complex"
##                 "apolipoprotein B mRNA editing enzyme complex"
##                 "CD40 receptor complex"
##                 "spliceosomal snRNP complex"
##                 "sperm flagellum"
##                 "interleukin-12 receptor complex"
##                 "RNA polymerase I core factor complex"
##                 "spindle matrix"
##                 "ficolin-1-rich granule membrane"
##                 "stereocilia ankle link"
##                 "collagen type XIV trimer"
##                 "ribonuclease P complex"
##                 "nuclear RNA-directed RNA polymerase complex"
##                 "extrinsic component of Golgi membrane"
##                 "septin cytoskeleton"
##                 "HOPS complex"
##                 "eRF1 methyltransferase complex"
##                 "lamellar body"
##                 "growing cell tip"
##                 "host cell presynaptic membrane"
##                 "serine protease inhibitor complex"
##                 "serine-type peptidase complex"
```

```
##                     "perinucleolar compartment"
##                     "CSF1-CSF1R complex"
##                     "FHF complex"
##                     "potassium:proton exchanging ATPase complex"
##                     "ion channel complex"
##                     "palmitoyltransferase complex"
##                     "intracellular organelle"
##                     "interleukin-12 complex"
##                     "photoreceptor cell cilium"
##                     "CURI complex"
##                     "UTP-C complex"
##                     "apical part of cell"
##                     "stereocilia ankle link complex"
##                     "intracellular cyclic nucleotide activated cation channel complex"
##                     "dentate gyrus mossy fiber"
##                     "transmembrane transporter complex"
##                     "RNA polymerase III complex"
##                     "perinuclear region of cytoplasm"
##                     "integrin alpha3-beta1 complex"
##                     "Elg1 RFC-like complex"
##                     "RISC-loading complex"
##                     "nuclear envelope lumen"
##                     "lumenal side of Golgi membrane"
##                     "Derlin-1-VIMP complex"
##                     "extrinsic component of vacuolar membrane"
##                     "PAS complex"
##                     "collagen type II trimer"
##                     "molybdopterin synthase complex"
##                     "cell pole"
##                     "telomerase catalytic core complex"
##                     "RNA-directed RNA polymerase complex"
##                     "chromaffin granule"
##                     "anchored component of presynaptic active zone membrane"
##                     "TERT-RMRP complex"
##                     "organelle membrane contact site"
##                     "intracellular canaliculus"
##                     "synaptobrevin 2-SNAP-25-syntaxin-3-complexin complex"
##                     "interleukin-23 complex"
##                     "phagocytic vesicle lumen"
##                     "CNTFR-CLCF1 complex"
##                     "cochlear hair cell ribbon synapse"
##                     "myofibril"
##                     "filopodium membrane"
##                     "centriolar satellite"
##                     "host cell surface"
##                     "SMN-Gemin2 complex"
##                     "recycling endosome"
##                     "tertiary granule membrane"
##                     "hippocampal mossy fiber expansion"
##                     "NatA complex"
##                     "lateral cell cortex"
##                     "viral replication complex"
##                     "G-protein beta/gamma-subunit complex"
##                     "FACT complex"
```

```
##                      "spanning component of plasma membrane"
##                      "NatC complex"
##                      "mitochondrial DNA-directed RNA polymerase complex"
##                      "gamma-tubulin small complex, mitotic spindle pole body"
##                      "Noc4p-Nop14p complex"
##                      "Barr body"
##                      "Cdc73/Paf1 complex"
##                      "BLOC-2 complex"
##                      "UDP-N-acetylglucosamine transferase complex"
##                      "interleukin-23 receptor complex"
##                      "cation-transporting ATPase complex"
##                      "parallel fiber"
##                      "amyloid-beta complex"
##                      "box H/ACA scaRNP complex"
##                      "box H/ACA telomerase RNP complex"
##                      "lipoprotein particle"
##                      "Arp2/3 protein complex"
##                      "U6atac snRNP"
##                      "U4atac/U6atac snRNP"
##                      "BORC complex"
##                      "extracellular membrane-bounded organelle"
##                      "macropinocytic cup"
##                      "fibrillar collagen trimer"
##                      "cell-cell contact zone"
##                      "host cell"
##                      "integrin alpha1-beta1 complex"
##                      "mucus layer"
##                      "endocytic vesicle lumen"
##                      "90S preribosome"
##                      "neuron projection branch point"
##                      "dendritic spine cytoplasm"
##                      "Piccolo NuA4 histone acetyltransferase complex"
##                      "Rix1 complex"
##                      "tertiary granule"
##                      "climbing fiber"
##                      "9+2 motile cilium"
##                      "KICSTOR complex"
##                      "RNA polymerase II, holoenzyme"
##                      "trans-Golgi network transport vesicle membrane"
##                      "inner mucus layer"
##                      "outer mucus layer"
##                      "epididymosome"
##                      "ARC complex"
##                      "SLIK (SAGA-like) complex"
##                      "elastic fiber"
##                      "RNA polymerase I complex"
##                      "tRNA (m1A) methyltransferase complex"
##                      "Ragulator complex"
##                      "PET complex"
##                      "inner acrosomal membrane"
##                      "early endosome lumen"
##                      "cytosolic aryl hydrocarbon receptor complex"
##                      "t-UTP complex"
##                      "CAAX-protein geranylgeranyltransferase complex"
```

```
##                     "neuromuscular junction"
##                     "granular component"
##                     "Toll-like receptor 1-Toll-like receptor 2 protein complex"
##                     "preribosome, large subunit precursor"
##                     "RNA polymerase II transcription repressor complex"
##                     "Dbf4-dependent protein kinase complex"
##                     "Smc5-Smc6 complex"
##                     "tubulobulbar complex"
##                     "ciliary inversin compartment"
##                     "laminin-3 complex"
##                     "THO complex"
##                     "perisynaptic extracellular matrix"
##                     "H zone"
##                     "hippocampal mossy fiber to CA3 synapse"
##                     "SPOTS complex"
##                     "euchromatin"
##                     "protein phosphatase 4 complex"
##                     "granulocyte macrophage colony-stimulating factor receptor complex"
##                     "PCSK9-LDLR complex"
##                     "cytosolic tRNA wobble base thiouridylase complex"
##                     "ACF complex"
##                     "integral component of organelle membrane"
##                     "stereocilium tip"
##                     "sperm midpiece"
##                     "nuclear cyclin-dependent protein kinase holoenzyme complex"
##                     "intercalated disc"
##                     "multi-eIF complex"
##                     "peripheral region of growth cone"
##                     "TRAMP complex"
##                     "NLS-dependent protein nuclear import complex"
##                     "synaptonemal complex"
##                     "P-body"
##                     "RSC-type complex"
##                     "autosome"
##                     "dystroglycan complex"
##                     "Bcl3-Bcl10 complex"
##                     "Golgi medial cisterna"
##                     "symbiont-containing vacuole"
##                     "recombination nodule"
##                     "keratohyalin granule"
##                     "perikaryon"
##                     "TRAPPIII protein complex"
##                     "AP-type membrane coat adaptor complex"
##                     "EGO complex"
##                     "Golgi cisterna membrane"
##                     "NLRP1 inflammasome complex"
##                     "microspike"
##                     "C zone"
##                     "MSL complex"
##                     "protease inhibitor complex"
##                     "sex chromatin"
##                     "transcription factor TFIIIC complex"
##                     "MCM8-MCM9 complex"
##                     "RIC1-RGP1 guanyl-nucleotide exchange factor complex"
```

```
##                      "glycinergic synapse"
##                      "Z disc"
##                      "BMP receptor complex"
##                      "XY body"
##                      "platelet dense tubular network"
##                      "desmosome"
##                      "translation initiation ternary complex"
##                      "omegasome"
##                      "collagen type IX trimer"
##                      "sperm cytoplasmic droplet"
##                      "ATP-binding cassette (ABC) transporter complex"
##                      "lamellipodium membrane"
##                      "lamin filament"
##                      "MPP7-DLG1-LIN7 complex"
##                      "retromer complex"
##                      "Fc-epsilon receptor I complex"
##                      "Lsd1/2 complex"
##                      "distal dendrite"
##                      "apical distal dendrite"
##                      "interleukin-1 receptor complex"
##                      "TRAPPII protein complex"
##                      "stereocilium bundle"
##                      "retromer, cargo-selective complex"
##                      "haptoglobin-hemoglobin complex"
##                      "glial limiting end-foot"
##                      "eukaryotic 43S preinitiation complex"
##                      "outer dynein arm"
##                      "SMC loading complex"
##                      "Scc2-Scc4 cohesin loading complex"
##                      "DNA topoisomerase complex (ATP-hydrolyzing)"
##                      "dendritic tree"
##                      "HFE-transferrin receptor complex"
##                      "tRNA methyltransferase complex"
##                      "endolysosome lumen"
##                      "snRNA-activating protein complex"
##                      "inhibin-betaglycan-ActRII complex"
##                      "anchored component of postsynaptic membrane"
##                      "MutLalpha complex"
##                      "host cell viral assembly compartment"
##                      "tricellular tight junction"
##                      "clathrin-coated endocytic vesicle"
##                      "microtubule end"
##                      "Noc1p-Noc2p complex"
##                      "Noc2p-Noc3p complex"
##                      "box H/ACA snoRNP complex"
##                      "eukaryotic translation initiation factor 3 complex"
##                      "DUBm complex"
##                      "NADPH oxidase complex"
##                      "dendritic spine head"
##                      "central region of growth cone"
##                      "CA3 pyramidal cell dendrite"
##                      "IPAF inflammasome complex"
##                      "glutamate-cysteine ligase complex"
##                      "integrin alpha6-beta4 complex"
```

```
##                      "cytoplasmic vesicle lumen"
##                      "oncostatin-M receptor complex"
##                      "epsilon DNA polymerase complex"
##                      "ASTRA complex"
##                      "integral component of lumenal side of endoplasmic reticulum membrane"
##                      "apical tubulobulbar complex"
##                      "basal tubulobulbar complex"
##                      "microvillus membrane"
##                      "tetraspanin-enriched microdomain"
##                      "anchored component of presynaptic membrane"
##                      "CHRAC"
##                      "RecQ helicase-Topo III complex"
##                      "endolysosome membrane"
##                      "endothelial microparticle"
##                      "protein kinase complex"
##                      "GINS complex"
##                      "photoreceptor inner segment membrane"
##                      "acetylcholine-gated channel complex"
##                      "intraciliary transport particle"
##                      "rod spherule"
##                      "laminin-8 complex"
##                      "muscle cell projection membrane"
##                      "methyltransferase complex"
##                      "proximal neuron projection"
##                      "cytoplasmic ubiquitin ligase complex"
##                      "DNA replication factor C complex"
##                      "protein complex involved in cell adhesion"
##                      "presynaptic intermediate filament cytoskeleton"
##                      "kainate selective glutamate receptor complex"
##                      "microtubule bundle"
##                      "dehydrodolichyl diphosphate synthase complex"
##                      "PCSK9-AnxA2 complex"
##                      "host cell perinuclear region of cytoplasm"
##                      "PAN complex"
##                      "extracellular space"
##                      "CORVET complex"
##                      "extrinsic component of presynaptic membrane"
##                      "collagen type VII trimer"
##                      "ESCRT III complex"
##                      "clathrin coat of endocytic vesicle"
##                      "macrophage migration inhibitory factor receptor complex"
##                      "extrinsic component of membrane"
##                      "methionyl glutamyl tRNA synthetase complex"
##                      "cell-substrate adherens junction"
##                      "nuclear stress granule"
##                      "THO complex part of transcription export complex"
##                      "TAP complex"
##                      "invadopodium membrane"
##                      "clathrin-coated pit"
##                      "NatB complex"
##                      "AP-1 adaptor complex"
##                      "serine-pyruvate aminotransferase complex"
##                      "synapse"
##                      "TORC2 complex"
```

```
##                  "septin collar"
##                  "postsynaptic intermediate filament cytoskeleton"
##                  "cell cortex region"
##                  "citrate lyase complex"
##                  "Rad17 RFC-like complex"
##                  "condensin complex"
##                  "cation channel complex"
##                  "phagolysosome"
##                  "micro-ribonucleoprotein complex"
##                  "lateral loop"
##                  "RNA N6-methyladenosine methyltransferase complex"
##                  "syntrophin complex"
##                  "death-inducing signaling complex"
##                  "FANCM-MHF complex"
##                  "NLRP3 inflammasome complex"
##                  "9+0 non-motile cilium"
##                  "interleukin-6 receptor complex"
##                  "negative cofactor 2 complex"
##                  "Hrd1p ubiquitin ligase ERAD-L complex"
##                  "monomeric IgA immunoglobulin complex"
##                  "secretory IgA immunoglobulin complex"
##                  "secretory dimeric IgA immunoglobulin complex"
##                  "complement component C1 complex"
##                  "parallel fiber to Purkinje cell synapse"
##                  "glycosylphosphatidylinositol-N-acetylglucosaminyltransferase (GPI-GnT) complex"
##                  "protein kinase CK2 complex"
##                  "transcription factor TFIIK complex"
##                  "integral component of cytoplasmic side of endoplasmic reticulum membrane"
##                  "integral component of nuclear outer membrane"
##                  "insulin-like growth factor binding protein complex"
##                  "NF-kappaB p50/p65 complex"
##                  "microprocessor complex"
##                  "piP-body"
##                  "MHC class Ib protein complex"
##                  "endocytic vesicle membrane"
##                  "Scrib-APC-beta-catenin complex"
##                  "pinceau fiber"
##                  "other organism cell membrane"
##                  "integrin alphav-beta3 complex"
##                  "condensin core heterodimer"
##                  "meiotic nuclear membrane microtubule tethering complex"
##                  "nucleoid"
##                  "protein farnesyltransferase complex"
##                  "Gemini of coiled bodies"
##                  "RQC complex"
##                  "host cell PML body"
##                  "nuclear subtelomeric heterochromatin"
##                  "pentameric IgM immunoglobulin complex"
##                  "hexameric IgM immunoglobulin complex"
##                  "collagen type VI trimer"
##                  "insulin-like growth factor ternary complex"
##                  "interleukin-18 receptor complex"
##                  "kinesin I complex"
##                  "myosin V complex"
```

```
##                        "cyclin K-CDK13 complex"
##                        "cytoplasmic side of apical plasma membrane"
##                        "kinociliary basal body"
##                        "NMDA selective glutamate receptor complex"
##                        "half bridge of spindle pole body"
##                        "U4/U6 snRNP"
##                        "AP-4 adaptor complex"
##                        "catalytic step 1 spliceosome"
##                        "early phagosome"
##                        "integral component of lysosomal membrane"
##                        "delta DNA polymerase complex"
##                        "laminin-2 complex"
##                        "integrin alphav-beta5 complex"
##                        "cell tip"
##                        "hippocampal mossy fiber"
##                        "cytoskeleton of presynaptic active zone"
##                        "histone locus body"
##                        "unconventional myosin complex"
##                        "activating signal cointegrator 1 complex"
##                        "junctional membrane complex"
##                        "presynaptic endocytic zone membrane"
##                        "cytoplasmic microtubule"
##                        "nuclear SCF ubiquitin ligase complex"
##                        "growth cone leading edge"
##                        "ESCRT II complex"
##                        "HIR complex"
##                        "lysosomal lumen"
##                        "immunological synapse"
##                        "postsynaptic specialization"
##                        "sodium channel complex"
##                        "exocyst"
##                        "transcription export complex"
##                        "ciliary neurotrophic factor receptor complex"
##                        "interphase microtubule organizing center"
##                        "presynaptic endocytic zone"
##                        "pi-body"
##                        "HSP90-CDC37 chaperone complex"
##                        "intercellular canaliculus"
##                        "perinucleolar chromocenter"
##                        "dendritic filopodium"
##                        "B cell receptor complex"
##                        "alphav-beta3 integrin-vitronectin complex"
##                        "mucin granule"
##                        "other organism cell"
##                        "stress fiber"
##                        "polycystin complex"
##                        "U2-type post-mRNA release spliceosomal complex"
##                        "primary dendrite"
##                        "eukaryotic 48S preinitiation complex"
##                        "laminin-1 complex"
##                        "Rad6-Rad18 complex"
##                        "cytoplasmic ribonucleoprotein granule"
##                        "cardiac Troponin complex"
##                        "Wnt-Frizzled-LRP5/6 complex"
```

```
##                         "BRCA2-MAGE-D1 complex"
##                         "messenger ribonucleoprotein complex"
##                         "astrocyte projection"
##                         "integral component of synaptic membrane"
##                         "TORC1 complex"
##                         "eukaryotic translation initiation factor 3 complex, eIF3e"
##                         "ATF4-CREB1 transcription factor complex"
##                         "ruffle"
##                         "astrocyte end-foot"
##                         "voltage-gated sodium channel complex"
##                         "condensed nuclear chromosome inner kinetochore"
##                         "ribonuclease H2 complex"
##                         "cortical microtubule"
##                         "cytoplasmic microtubule bundle"
##                         "trans-Golgi network"
##                         "intracellular ferritin complex"
##                         "mRNA cleavage stimulating factor complex"
##                         "alphav-beta3 integrin-HMGB1 complex"
##                         "post-spliceosomal complex"
##                         "Hrd1p ubiquitin ligase complex"
##                         "SOSS complex"
##                         "phagophore assembly site"
##                         "Cul5-RING ubiquitin ligase complex"
##                         "ribonucleoprotein granule"
##                         "gamma-catenin-TCF7L2 complex"
##                         "telomeric heterochromatin"
##                         "cleavage body"
##                         "alphav-beta3 integrin-IGF-1-IGF1R complex"
##                         "nuclear pore transmembrane ring"
##                         "PR-DUB complex"
##                         "DBIRD complex"
##                         "anaphase-promoting complex"
##                         "cyclin K-CDK12 complex"
##                         "collagen type IV trimer"
##                         "proteasome activator complex"
##                         "SAGA complex"
##                         "Mis6-Sim4 complex"
##                         "nuclear origin of replication recognition complex"
##                         "nuclear replication fork"
##                         "photoreceptor ribbon synapse"
##                         "cellular_component"
##                         "extrinsic component of postsynaptic specialization membrane"
##                         "asymmetric, glutamatergic, excitatory synapse"
##                         "ATF1-ATF4 transcription factor complex"
##                         "collagen type I trimer"
##                         "tubular endosome"
##                         "caveola"
##                         "ripoptosome"
##                         "cuticular plate"
##                         "symmetric, GABA-ergic, inhibitory synapse"
##                         "Ctf18 RFC-like complex"
##                         "U2-type spliceosomal complex"
##                         "nucleotide-excision repair factor 2 complex"
##                         "nuclear pore central transport channel"
```

```
##                      "neurosecretory vesicle"
##                      "follicle-stimulating hormone complex"
##                      "inhibitory synapse"
##                      "laminin-5 complex"
##                      "intrinsic component of Golgi membrane"
##                      "senescence-associated heterochromatin focus"
##                      "MAML1-RBP-Jkappa- ICN1 complex"
##                      "synaptobrevin 2-SNAP-25-syntaxin-1a complex"
##                      "TRC complex"
##                      "discoidal high-density lipoprotein particle"
##                      "neuronal cell body membrane"
##                      "UFD1-NPL4 complex"
##                      "transcription factor TFIIE complex"
##                      "STAGA complex"
##                      "interstitial matrix"
##                      "core-binding factor complex"
##                      "extrinsic component of endoplasmic reticulum membrane"
##                      "neurofilament cytoskeleton"
##                      "TRAF2-GSTP1 complex"
##                      "endocytic vesicle"
##                      "transcription export complex 2"
##                      "annulate lamellae"
##                      "PCAF complex"
##                      "junctional sarcoplasmic reticulum membrane"
##                      "platelet dense granule lumen"
##                      "nuclear euchromatin"
##                      "AIM2 inflammasome complex"
##                      "chromosome, centromeric core domain"
##                      "cardiac myofibril"
##                      "membrane coat"
##                      "interleukin-5 receptor complex"
##                      "extrinsic component of phagophore assembly site membrane"
##                      "extrinsic component of omegasome membrane"
##                      "CHOP-ATF3 complex"
##                      "spectrin-associated cytoskeleton"
##                      "dendritic spine neck"
##                      "dendritic microtubule"
##                      "nuclear microtubule"
##                      "UBC13-MMS2 complex"
##                      "extracellular region"
##                      "cortical endoplasmic reticulum"
##                      "CBM complex"
##                      "AIP1-IRE1 complex"
##                      "other organism cytoplasm"
##                      "compact myelin"
##                      "Ski complex"
##                      "CGRP receptor complex"
##                      "nuclear RNA export factor complex"
##                      "glial cytoplasmic inclusion"
##                      "classical Lewy body"
##                      "Lewy neurite"
##                      "Lewy body corona"
##                      "PTW/PP1 phosphatase complex"
##                      "nucleotide-excision repair factor 3 complex"
```

```
##                      "Cul3-RING ubiquitin ligase complex"
##                      "nuclear condensin complex"
##                      "photoreceptor cell terminal bouton"
##                      "LUBAC complex"
##                      "RSF complex"
##                      "spanning component of membrane"
##                      "plus-end kinesin complex"
##                      "activin responsive factor complex"
##                      "lipid tube"
##                      "central element"
##                      "transcription factor TFIIH core complex"
##                      "somatodendritic compartment"
##                      "G protein-coupled receptor dimeric complex"
##                      "G protein-coupled receptor homodimeric complex"
##                      "gamma DNA polymerase complex"
##                      "nuclear exosome (RNase complex)"
##                      "IRE1-TRAF2-ASK1 complex"
##                      "laminin-11 complex"
##                      "cytoplasmic exosome (RNase complex)"
##                      "contractile ring"
##                      "NSL complex"
##                      "stereocilium membrane"
##                      "Rad51B-Rad51C-Rad51D-XRCC2 complex"
##                      "cytoplasmic side of nuclear pore"
##                      "proteasome core complex"
##                      "dendrite membrane"
##                      "myosin filament"
##                      "eukaryotic translation initiation factor 3 complex, eIF3m"
##                      "gamma-tubulin complex"
##                      "microfibril"
##                      "GABA-ergic synapse"
##                      "nuclear pre-replicative complex"
##                      "transcription factor TFTC complex"
##                      "transport vesicle"
##                      "cell body fiber"
##                      "transport vesicle membrane"
##                      "AP-3 adaptor complex"
##                      "tRNA-splicing ligase complex"
##                      "integrin alpha2-beta1 complex"
##                      "periciliary membrane compartment"
##                      "lamellipodium"
##                      "amylin receptor complex 1"
##                      "spherical high-density lipoprotein particle"
##                      "Elongator holoenzyme complex"
##                      "myelin sheath adaxonal region"
##                      "anchored component of plasma membrane"
##                      "integral component of peroxisomal membrane"
##                      "catalytic complex"
##                      "spermatoproteasome complex"
##                      "extrinsic component of postsynaptic membrane"
##                      "dendrite terminus"
##                      "postsynapse"
##                      "clathrin-sculpted monoamine transport vesicle membrane"
##                      "endoplasmic reticulum-Golgi intermediate compartment membrane"
```

```
##                       "axonal spine"
##                       "nuclear telomeric heterochromatin"
##                       "multivesicular body membrane"
##                       "SMN complex"
##                       "Weibel-Palade body"
##                       "mitotic checkpoint complex"
##                       "bub1-bub3 complex"
##                       "MOZ/MORF histone acetyltransferase complex"
##                       "DNA-dependent protein kinase-DNA ligase 4 complex"
##                       "nuclear chromosome"
##                       "ESCRT-0 complex"
##                       "nuclear outer membrane-endoplasmic reticulum membrane network"
##                       "synaptic vesicle lumen"
##                       "neuronal dense core vesicle lumen"
##                       "intraciliary transport particle A"
##                       "CHOP-ATF4 complex"
##                       "proximal dendrite"
##                       "mature chylomicron"
##                       "chylomicron remnant"
##                       "axonemal microtubule"
##                       "CCR4-NOT core complex"
##                       "synaptobrevin 2-SNAP-25-syntaxin-1a-complexin II complex"
##                       "ELL-EAF complex"
##                       "GABA receptor complex"
##                       "mitotic cohesin complex"
##                       "centrosomal corona"
##                       "Golgi-associated vesicle membrane"
##                       "protein-containing complex"
##                       "tRNA-intron endonuclease complex"
##                       "DNA replication preinitiation complex"
##                       "heterochromatin"
##                       "SAGA-type complex"
##                       "integral component of nuclear inner membrane"
##                       "alphav-beta3 integrin-PKCalpha complex"
##                       "new growing cell tip"
##                       "pronucleus"
##                       "troponin complex"
##                       "zymogen granule"
##                       "sperm plasma membrane"
##                       "nuclear membrane"
##                       "perinuclear endoplasmic reticulum"
##                       "postsynaptic spectrin-associated cytoskeleton"
##                       "germinal vesicle"
##                       "TEAD-1-YAP complex"
##                       "supraspliceosomal complex"
##                       "adrenomedullin receptor complex"
##                       "Flemming body"
##                       "condensed chromosome inner kinetochore"
##                       "laminin-10 complex"
##                       "exosome (RNase complex)"
##                       "recycling endosome membrane"
##                       "box C/D snoRNP complex"
##                       "integrator complex"
##                       "rough endoplasmic reticulum lumen"
```

```
##                     "striated muscle myosin thick filament"
##                     "retromer, tubulation complex"
##                     "NF-kappaB complex"
##                     "extrinsic component of autophagosome membrane"
##                     "Holliday junction resolvase complex"
##                     "acrosomal membrane"
##                     "TSC1-TSC2 complex"
##                     "symbiont-containing vacuole membrane"
##                     "cytoskeleton"
##                     "neuronal ribonucleoprotein granule"
##                     "platelet alpha granule"
##                     "XPC complex"
##                     "clathrin-sculpted acetylcholine transport vesicle membrane"
##                     "ESCRT I complex"
##                     "cell projection membrane"
##                     "checkpoint clamp complex"
##                     "Golgi membrane"
##                     "SCAR complex"
##                     "proteasome core complex, alpha-subunit complex"
##                     "serotonergic synapse"
##                     "DSIF complex"
##                     "signal recognition particle receptor complex"
##                     "CHOP-C/EBP complex"
##                     "azurophil granule"
##                     "mitotic spindle astral microtubule"
##                     "cyclin D2-CDK4 complex"
##                     "clathrin-sculpted glutamate transport vesicle membrane"
##                     "chromaffin granule membrane"
##                     "amylin receptor complex 3"
##                     "precatalytic spliceosome"
##                     "Dsl1/NZR complex"
##                     "GABA-A receptor complex"
##                     "UBC13-UEV1A complex"
##                     "nuclear lumen"
##                     "centriolar subdistal appendage"
##                     "Schmidt-Lanterman incisure"
##                     "TRAPP complex"
##                     "amylin receptor complex 2"
##                     "semaphorin receptor complex"
##                     "ribonuclease MRP complex"
##                     "myelin sheath abaxonal region"
##                     "brush border"
##                     "SREBP-SCAP-Insig complex"
##                     "plasma membrane protein complex"
##                     "Lewy body core"
##                     "MCM complex"
##                     "membrane attack complex"
##                     "growth cone membrane"
##                     "condensed chromosome"
##                     "specific granule"
##                     "protein phosphatase type 1 complex"
##                     "integral component of presynaptic active zone membrane"
##                     "TEAD-2-YAP complex"
##                     "filamentous actin"
```

```
##                      "BLOC-1 complex"
##                      "pericentriolar material"
##                      "Ku70:Ku80 complex"
##                      "guanyl-nucleotide exchange factor complex"
##                      "ubiquitin conjugating enzyme complex"
##                      "podosome"
##                      "U11/U12 snRNP"
##                      "neurofibrillary tangle"
##                      "IRE1-RACK1-PP2A complex"
##                      "Grb2-Sos complex"
##                      "dendritic spine membrane"
##                      "L-type voltage-gated calcium channel complex"
##                      "TCR signalosome"
##                      "CD95 death-inducing signaling complex"
##                      "microtubule minus-end"
##                      "pre-snoRNP complex"
##                      "kinesin II complex"
##                      "nuclear pore inner ring"
##                      "Ndc80 complex"
##                      "presynaptic active zone cytoplasmic component"
##                      "Wnt signalosome"
##                      "sarcolemma"
##                      "intermediate-density lipoprotein particle"
##                      "DNA repair complex"
##                      "apicolateral plasma membrane"
##                      "shelterin complex"
##                      "vacuole"
##                      "Atg1/ULK1 kinase complex"
##                      "nuclear pore nuclear basket"
##                      "synaptobrevin 2-SNAP-25-syntaxin-1a-complexin I complex"
##                      "rDNA heterochromatin"
##                      "cytoplasmic periphery of the nuclear pore complex"
##                      "core TFIIH complex portion of holo TFIIH complex"
##                      "Prp19 complex"
##                      "extrinsic component of endosome membrane"
##                      "photoreceptor inner segment"
##                      "manchette"
##                      "BBSome"
##                      "heteromeric SMAD protein complex"
##                      "Mre11 complex"
##                      "high-density lipoprotein particle"
##                      "postsynaptic density, intracellular component"
##                      "growth cone lamellipodium"
##                      "nucleolar ribonuclease P complex"
##                      "microtubule associated complex"
##                      "vesicle coat"
##                      "chloride channel complex"
##                      "storage vacuole"
##                      "extrinsic component of postsynaptic density membrane"
##                      "transcription factor TFIIIB complex"
##                      "secretory granule"
##                      "synaptic cleft"
##                      "preribosome"
##                      "anchored component of external side of plasma membrane"
```

```
##                  "condensed nuclear chromosome"
##                  "inactive sex chromosome"
##                  "astral microtubule"
##                  "dendritic branch"
##                  "growth cone filopodium"
##                  "nuclear lamina"
##                  "signal recognition particle"
##                  "perinuclear endoplasmic reticulum membrane"
##                  "filopodium tip"
##                  "RZZ complex"
##                  "uropod"
##                  "ciliary rootlet"
##                  "nuclear pericentric heterochromatin"
##                  "macropinosome"
##                  "sarcoplasm"
##                  "GATOR2 complex"
##                  "ribonucleoprotein complex"
##                  "spindle pole body"
##                  "endoplasmic reticulum Sec complex"
##                  "nuclear inclusion body"
##                  "nuclear MIS12/MIND complex"
##                  "eukaryotic 80S initiation complex"
##                  "interchromatin granule"
##                  "paranode region of axon"
##                  "extrinsic component of external side of plasma membrane"
##                  "multimeric ribonuclease P complex"
##                  "MLL3/4 complex"
##                  "CCR4-NOT complex"
##                  "bleb"
##                  "ASAP complex"
##                  "intrinsic component of membrane"
##                  "specific granule lumen"
##                  "kinetochore microtubule"
##                  "sumoylated E2 ligase complex"
##                  "myosin complex"
##                  "site of double-strand break"
##                  "Schaffer collateral - CA1 synapse"
##                  "equatorial microtubule organizing center"
##                  "Myb complex"
##                  "Cul4B-RING E3 ubiquitin ligase complex"
##                  "postsynaptic endocytic zone cytoplasmic component"
##                  "ubiquitin ligase complex"
##                  "chylomicron"
##                  "ciliary transition fiber"
##                  "postsynaptic endocytic zone membrane"
##                  "postsynaptic membrane"
##                  "dendritic shaft"
##                  "low-density lipoprotein particle"
##                  "integral component of postsynaptic specialization membrane"
##                  "apical dendrite"
##                  "cortical microtubule cytoskeleton"
##                  "photoreceptor connecting cilium"
##                  "histone pre-mRNA 3'end processing complex"
##                  "cell leading edge"
```

```
##                      "main axon"
##                      "transferase complex"
##                      "cyclin B1-CDK1 complex"
##                      "very-low-density lipoprotein particle"
##                      "transcription factor TFIIF complex"
##                      "lateral plasma membrane"
##                      "node of Ranvier"
##                      "nuclear transcription factor complex"
##                      "ciliary transition zone"
##                      "cell division site"
##                      "ribosome"
##                      "neurofilament"
##                      "PcG protein complex"
##                      "basal part of cell"
##                      "integral component of synaptic vesicle membrane"
##                      "small nucleolar ribonucleoprotein complex"
##                      "deuterosome"
##                      "Grb2-EGFR complex"
##                      "phosphatidylinositol 3-kinase complex"
##                      "secretory granule membrane"
##                      "nuclear meiotic cohesin complex"
##                      "U2-type catalytic step 1 spliceosome"
##                      "translation release factor complex"
##                      "origin recognition complex"
##                      "NURF complex"
##                      "integral component of Golgi membrane"
##                      "beta-catenin destruction complex"
##                      "cleavage furrow"
##                      "transcription factor TFIIA complex"
##                      "signal recognition particle, endoplasmic reticulum targeting"
##                      "ruffle membrane"
##                      "chromatin silencing complex"
##                      "insulin receptor complex"
##                      "site of DNA damage"
##                      "Lsm1-7-Pat1 complex"
##                      "muscle thin filament tropomyosin"
##                      "CAF-1 complex"
##                      "zonula adherens"
##                      "collagen trimer"
##                      "clathrin vesicle coat"
##                      "hemidesmosome"
##                      "male pronucleus"
##                      "intraciliary transport particle B"
##                      "Rb-E2F complex"
##                      "polysome"
##                      "extracellular matrix"
##                      "cis-Golgi network"
##                      "G protein-coupled receptor heterodimeric complex"
##                      "exocytic vesicle"
##                      "U6 snRNP"
##                      "T cell receptor complex"
##                      "Cul4A-RING E3 ubiquitin ligase complex"
##                      "glial cell projection"
##                      "asymmetric synapse"
```

```
##                  "presynaptic active zone membrane"
##                  "replication fork"
##                  "replication fork protection complex"
##                  "condensed nuclear chromosome kinetochore"
##                  "nuclear pore cytoplasmic filaments"
##                  "cytoplasmic side of rough endoplasmic reticulum membrane"
##                  "Set1C/COMPASS complex"
##                  "phagocytic cup"
##                  "Cul4-RING E3 ubiquitin ligase complex"
##                  "MIS12/MIND type complex"
##                  "organelle membrane"
##                  "axon cytoplasm"
##                  "actomyosin contractile ring"
##                  "stereocilium"
##                  "gamma-tubulin small complex"
##                  "growth cone"
##                  "nuclear telomere cap complex"
##                  "nuclear cap binding complex"
##                  "HULC complex"
##                  "phosphatidylinositol 3-kinase complex, class IA"
##                  "intercellular bridge"
##                  "condensed nuclear chromosome outer kinetochore"
##                  "nonhomologous end joining complex"
##                  "MKS complex"
##                  "integrin complex"
##                  "spine apparatus"
##                  "transcriptional repressor complex"
##                  "BRCA1-A complex"
##                  "small-subunit processsome"
##                  "core mediator complex"
##                  "ESC/E(Z) complex"
##                  "Mpp10 complex"
##                  "basal dendrite"
##                  "RNA cap binding complex"
##                  "cilium"
##                  "intermediate filament"
##                  "cell projection"
##                  "condensed chromosome outer kinetochore"
##                  "voltage-gated calcium channel complex"
##                  "transcription factor TFIID complex"
##                  "cytoplasmic vesicle"
##                  "anchored component of membrane"
##                  "basal plasma membrane"
##                  "apical junction complex"
##                  "trans-Golgi network membrane"
##                  "post-mRNA release spliceosomal complex"
##                  "beta-catenin-TCF7L2 complex"
##                  "dynein complex"
##                  "female pronucleus"
##                  "axon initial segment"
##                  "PRC1 complex"
##                  "mitotic spindle"
##                  "symmetric synapse"
##                  "adherens junction"
```

```
##                      "transcriptionally active chromatin"
##                      "transforming growth factor beta receptor complex"
##                      "flotillin complex"
##                      "perichromatin fibrils"
##                      "basal cortex"
##                      "U2AF"
##                      "signal peptidase complex"
##                      "Ada2/Gcn5/Ada3 transcription activator complex"
##                      "axolemma"
##                      "activin receptor complex"
##                      "microtubule plus-end"
##                      "chromosome passenger complex"
##                      "presynaptic active zone"
##                      "alpha-beta T cell receptor complex"
##                      "endosome lumen"
##                      "centriole"
##                      "axon hillock"
##                      "leading edge membrane"
##                      "BRCA1-BARD1 complex"
##                      "condensed nuclear chromosome, centromeric region"
##                      "HAUS complex"
##                      "myosin II filament"
##                      "postsynaptic specialization, intracellular component"
##                      "extrinsic component of cytoplasmic side of plasma membrane"
##                      "Fanconi anaemia nuclear complex"
##                      "cyclin-dependent protein kinase holoenzyme complex"
##                      "COPII-coated ER to Golgi transport vesicle"
##                      "catenin complex"
##                      "spindle pole centrosome"
##                      "endosome"
##                      "axon terminus"
##                      "cholinergic synapse"
##                      "myosin II complex"
##                      "SMAD protein complex"
##                      "MHC class II protein complex"
##                      "photoreceptor outer segment"
##                      "nuclear inner membrane"
##                      "bicellular tight junction"
##                      "muscle myosin complex"
##                      "alpha DNA polymerase:primase complex"
##                      "cytosolic ribosome"
##                      "chromosome, telomeric region"
##                      "meiotic cohesin complex"
##                      "neuron projection"
##                      "non-motile cilium"
##                      "gamma-tubulin ring complex"
##                      "clathrin-coated endocytic vesicle membrane"
##                      "focal adhesion"
##                      "AP-2 adaptor complex"
##                      "condensed chromosome, centromeric region"
##                      "transcription elongation factor complex"
##                      "spectrin"
##                      "beta-catenin-TCF complex"
##                      "PML body"
```

```
##                       "telomerase holoenzyme complex"
##                       "mRNA cleavage factor complex"
##                       "paraspeckles"
##                       "transcriptional preinitiation complex"
##                       "mRNA cleavage and polyadenylation specificity factor complex"
##                       "CRD-mediated mRNA stability complex"
##                       "photoreceptor outer segment membrane"
##                       "basement membrane"
##                       "intracellular membrane-bounded organelle"
##                       "dopaminergic synapse"
##                       "U2-type prespliceosome"
##                       "chromocenter"
##                       "mast cell granule"
##                       "lateral element"
##                       "Sin3-type complex"
##                       "dynactin complex"
##                       "cytoplasmic dynein complex"
##                       "nuclear heterochromatin"
##                       "pericentric heterochromatin"
##                       "immunoglobulin complex, circulating"
##                       "spindle"
##                       "intrinsic component of plasma membrane"
##                       "pICln-Sm protein complex"
##                       "clathrin-coated vesicle membrane"
##                       "cell"
##                       "A band"
##                       "actomyosin"
##                       "methylosome"
##                       "commitment complex"
##                       "mitotic spindle midzone"
##                       "dendrite"
##                       "cornified envelope"
##                       "cell-cell adherens junction"
##                       "cell junction"
##                       "U7 snRNP"
##                       "DNA replication factor A complex"
##                       "cohesin complex"
##                       "spindle midzone"
##                       "Cajal body"
##                       "U2-type precatalytic spliceosome"
##                       "U4 snRNP"
##                       "SCF ubiquitin ligase complex"
##                       "endoplasmic reticulum lumen"
##                       "Sin3 complex"
##                       "Golgi transport complex"
##                       "histone deacetylase complex"
##                       "fibrillar center"
##                       "ciliary membrane"
##                       "dendritic spine"
##                       "SNARE complex"
##                       "ER to Golgi transport vesicle membrane"
##                       "mitotic spindle pole"
##                       "glutamatergic synapse"
##                       "histone methyltransferase complex"
```

```
##                        "basolateral plasma membrane"
##                        "nuclear pore outer ring"
##                        "npBAF complex"
##                        "microtubule organizing center"
##                        "RNA polymerase II transcription factor complex"
##                        "histone acetyltransferase complex"
##                        "small ribosomal subunit"
##                        "kinesin complex"
##                        "nuclear chromatin"
##                        "receptor complex"
##                        "SMN-Sm protein complex"
##                        "nBAF complex"
##                        "spindle microtubule"
##                        "U4/U6 x U5 tri-snRNP complex"
##                        "protein-DNA complex"
##                        "cell cortex"
##                        "ciliary tip"
##                        "keratin filament"
##                        "midbody"
##                        "photoreceptor disc membrane"
##                        "chromosome, centromeric region"
##                        "mediator complex"
##                        "cyclin/CDK positive transcription elongation factor complex"
##                        "Golgi lumen"
##                        "nuclear chromosome, telomeric region"
##                        "U5 snRNP"
##                        "cell surface"
##                        "integral component of postsynaptic density membrane"
##                        "postsynaptic density"
##                        "NuRD complex"
##                        "SWI/SNF complex"
##                        "nuclear envelope"
##                        "integral component of presynaptic membrane"
##                        "U1 snRNP"
##                        "spindle pole"
##                        "integral component of postsynaptic membrane"
##                        "presynaptic membrane"
##                        "collagen-containing extracellular matrix"
##                        "U2 snRNP"
##                        "external side of plasma membrane"
##                        "U12-type spliceosomal complex"
##                        "exon-exon junction complex"
##                        "RNA polymerase II, core complex"
##                        "small nuclear ribonucleoprotein complex"
##                        "nuclear matrix"
##                        "ciliary basal body"
##                        "chromatin"
##                        "nuclear body"
##                        "cell-cell junction"
##                        "heterotrimeric G-protein complex"
##                        "condensed chromosome kinetochore"
##                        "polysomal ribosome"
##                        "transcription factor complex"
##                        "cytosolic small ribosomal subunit"
```

```
##                        "chromosome"
##                        "intracellular"
##                        "kinetochore"
##                        "U2-type catalytic step 2 spliceosome"
##                        "cytosolic large ribosomal subunit"
##                        "nuclear speck"
##                        "centrosome"
##                        "spliceosomal complex"
##                        "nucleus"
##                        "nucleolus"
##                        "catalytic step 2 spliceosome"
##                        "nucleoplasm"
##                        "plasma membrane"
##                        "integral component of plasma membrane"
##
## cc.enriched.terms "zscore"  "obs"    "mean"      "std"
##                   "134.231" "1450"   "97.41"     "10.077"
##                   "122.28"  "3629"   "654.09"    "24.329"
##                   "82.884"  "6522"   "2576.76"   "47.599"
##                   "60.167"  "2229"   "769.6"     "24.256"
##                   "58.068"  "361"    "30.69"     "5.688"
##                   "42.319"  "56"     "2.2"       "1.271"
##                   "40.056"  "152"    "12.76"     "3.476"
##                   "39.578"  "188"    "21.6"      "4.204"
##                   "38.489"  "85"     "4.6"       "2.089"
##                   "36.287"  "576"    "150.18"    "11.735"
##                   "32.845"  "483"    "117.3"     "11.134"
##                   "32.76"   "504"    "131.34"    "11.375"
##                   "28.78"   "30"     "1.22"      "0.938"
##                   "28.608"  "67"     "5.15"      "2.162"
##                   "23.301"  "137"    "19.74"     "5.032"
##                   "21.947"  "1939"   "1045.47"   "40.714"
##                   "21.364"  "265"    "77.92"     "8.757"
##                   "20.647"  "229"    "59.2"      "8.224"
##                   "20.453"  "70"     "8.63"      "3.001"
##                   "20.281"  "121"    "22.11"     "4.876"
##                   "19.452"  "177"    "49.92"     "6.533"
##                   "19.407"  "122"    "28.17"     "4.835"
##                   "18.693"  "307"    "131"       "9.415"
##                   "17.872"  "46"     "7.1"       "2.177"
##                   "17.681"  "109"    "21.82"     "4.931"
##                   "16.429"  "30"     "2.68"      "1.663"
##                   "16.405"  "60"     "9.1"       "3.103"
##                   "16.359"  "50"     "5.84"      "2.699"
##                   "16.159"  "1284"   "808.95"    "29.398"
##                   "15.939"  "379"    "172.66"    "12.945"
##                   "15.359"  "40"     "5.12"      "2.271"
##                   "15.217"  "1101"   "699.12"    "26.41"
##                   "15.173"  "138"    "43.8"      "6.208"
##                   "14.748"  "16"     "1.17"      "1.006"
##                   "14.622"  "174"    "60.91"     "7.734"
##                   "14.429"  "59"     "11.1"      "3.32"
##                   "14.191"  "120"    "36.88"     "5.857"
##                   "14.033"  "7763"   "6220.31"   "109.932"
```

```
##                    "13.779"  "2301"  "1695.98"  "43.908"
##                    "13.526"  "106"   "33.87"    "5.333"
##                    "13.449"  "193"   "86.13"    "7.946"
##                    "13.249"  "124"   "41.52"    "6.226"
##                    "13.032"  "56"    "10.87"    "3.463"
##                    "12.328"  "15"    "1.13"     "1.125"
##                    "12.26"   "50"    "10.9"     "3.189"
##                    "11.87"   "398"   "220.65"   "14.941"
##                    "11.794"  "557"   "359.63"   "16.735"
##                    "11.588"  "23"    "2.77"     "1.746"
##                    "11.289"  "156"   "68.94"    "7.712"
##                    "11.22"   "52"    "14.18"    "3.371"
##                    "10.936"  "38"    "8.21"     "2.724"
##                    "10.889"  "32"    "6.42"     "2.349"
##                    "10.753"  "40"    "9.49"     "2.837"
##                    "10.551"  "216"   "105.7"    "10.454"
##                    "10.39"   "37"    "8.54"     "2.739"
##                    "9.73"    "11"    "1.27"     "0.993"
##                    "9.72"    "133"   "57.3"     "7.788"
##                    "9.715"   "760"   "563.57"   "20.22"
##                    "9.673"   "89"    "37.23"    "5.352"
##                    "9.651"   "767"   "536"      "23.936"
##                    "9.604"   "90"    "38.37"    "5.376"
##                    "9.601"   "762"   "521.52"   "25.048"
##                    "9.553"   "264"   "159.27"   "10.964"
##                    "9.53"    "39"    "8.63"     "3.187"
##                    "9.49"    "26"    "5.58"     "2.152"
##                    "9.39"    "36"    "8.69"     "2.908"
##                    "9.321"   "154"   "79.44"    "7.999"
##                    "9.214"   "42"    "12.11"    "3.244"
##                    "9.063"   "92"    "37.08"    "6.06"
##                    "9.055"   "72"    "22.96"    "5.416"
##                    "8.892"   "129"   "60.92"    "7.656"
##                    "8.722"   "220"   "118.91"   "11.59"
##                    "8.559"   "259"   "149.22"   "12.826"
##                    "8.557"   "40"    "12.42"    "3.223"
##                    "8.34"    "9"     "0.66"     "0.781"
##                    "8.326"   "94"    "40.67"    "6.406"
##                    "8.28"    "128"   "68.65"    "7.168"
##                    "8.272"   "209"   "126.46"   "9.978"
##                    "8.259"   "26"    "7"        "2.301"
##                    "8.137"   "201"   "121.39"   "9.783"
##                    "8.113"   "47"    "14"       "4.068"
##                    "7.897"   "50"    "19.42"    "3.872"
##                    "7.894"   "19"    "4.13"     "1.884"
##                    "7.727"   "92"    "44.61"    "6.133"
##                    "7.557"   "107"   "46.27"    "8.036"
##                    "7.453"   "234"   "147.3"    "11.633"
##                    "7.406"   "11"    "1.84"     "1.237"
##                    "7.38"    "8"     "0.62"     "0.678"
##                    "7.342"   "52"    "19.28"    "4.456"
##                    "7.281"   "533"   "390.87"   "19.52"
##                    "7.12"    "8"     "0.88"     "0.795"
##                    "7.041"   "344"   "240.53"   "14.695"
```

```
##                      "6.961"  "69"    "28.95"    "5.753"
##                      "6.884"  "18"    "4.75"     "1.925"
##                      "6.876"  "59"    "24.08"    "5.079"
##                      "6.719"  "721"   "559.94"   "23.969"
##                      "6.664"  "21"    "5.94"     "2.26"
##                      "6.631"  "8"     "1.12"     "1.037"
##                      "6.495"  "38"    "14.13"    "3.675"
##                      "6.459"  "146"   "94.75"    "7.935"
##                      "6.355"  "97"    "50.15"    "7.372"
##                      "6.29"   "21"    "6.58"     "2.293"
##                      "6.199"  "129"   "75.03"    "8.707"
##                      "6.152"  "52"    "21.11"    "5.021"
##                      "6.086"  "15"    "3.03"     "1.967"
##                      "6.048"  "14"    "3.25"     "1.777"
##                      "6.028"  "1178"  "1009.31"  "27.985"
##                      "6.019"  "387"   "287.03"   "16.609"
##                      "5.91"   "22"    "6.67"     "2.594"
##                      "5.833"  "64"    "31.39"    "5.59"
##                      "5.81"   "6"     "0.19"     "0.419"
##                      "5.477"  "8"     "1.69"     "1.152"
##                      "5.462"  "117"   "66.78"    "9.194"
##                      "5.422"  "466"   "371.52"   "17.426"
##                      "5.298"  "53"    "26.96"    "4.915"
##                      "5.277"  "103"   "64.73"    "7.253"
##                      "5.25"   "633"   "524.31"   "20.702"
##                      "5.137"  "122"   "73.37"    "9.467"
##                      "5.096"  "11"    "2.94"     "1.582"
##                      "5.079"  "91"    "57.92"    "6.513"
##                      "5.047"  "38"    "17.49"    "4.064"
##                      "5.046"  "64"    "36.92"    "5.367"
##                      "4.993"  "21"    "7.19"     "2.766"
##                      "4.887"  "1664"  "1505.75"  "32.383"
##                      "4.875"  "125"   "81.26"    "8.973"
##                      "4.874"  "106"   "70.55"    "7.273"
##                      "4.845"  "160"   "115.37"   "9.212"
##                      "4.842"  "10"    "2.24"     "1.603"
##                      "4.765"  "48"    "25.37"    "4.75"
##                      "4.732"  "157"   "117.44"   "8.361"
##                      "4.666"  "39"    "20.8"     "3.9"
##                      "4.555"  "84"    "51.1"     "7.223"
##                      "4.543"  "19"    "8.26"     "2.364"
##                      "4.526"  "53"    "30.33"    "5.009"
##                      "4.523"  "52"    "29.2"     "5.041"
##                      "4.419"  "15"    "4.91"     "2.283"
##                      "4.418"  "14"    "4.66"     "2.114"
##                      "4.383"  "31"    "14.34"    "3.801"
##                      "4.338"  "635"   "521.86"   "26.083"
##                      "4.332"  "66"    "42.35"    "5.459"
##                      "4.29"   "22"    "10.26"    "2.736"
##                      "4.279"  "17"    "6.34"     "2.491"
##                      "4.278"  "17"    "6.14"     "2.539"
##                      "4.236"  "171"   "124.1"    "11.07"
##                      "4.188"  "303"   "237.14"   "15.727"
##                      "4.11"   "90"    "57.72"    "7.854"
```

```
##                   "4.039"  "19"    "8.11"    "2.696"
##                   "4.012"  "68"    "41.86"   "6.515"
##                   "4.004"  "82"    "55.03"   "6.735"
##                   "3.993"  "38"    "19.95"   "4.52"
##                   "3.989"  "140"   "96.22"   "10.975"
##                   "3.954"  "76"    "47.83"   "7.124"
##                   "3.881"  "227"   "178.32"  "12.542"
##                   "3.837"  "47"    "28.37"   "4.855"
##                   "3.819"  "76"    "50.29"   "6.732"
##                   "3.812"  "22"    "9.84"    "3.19"
##                   "3.81"   "4"     "0.19"    "0.443"
##                   "3.806"  "83"    "55.9"    "7.12"
##                   "3.765"  "5"     "1.14"    "1.025"
##                   "3.684"  "50"    "31.52"   "5.016"
##                   "3.683"  "18"    "7.61"    "2.821"
##                   "3.569"  "46"    "27.11"   "5.293"
##                   "3.56"   "64"    "42.71"   "5.98"
##                   "3.548"  "34"    "19.46"   "4.098"
##                   "3.516"  "212"   "166.13"  "13.046"
##                   "3.497"  "37"    "19.94"   "4.878"
##                   "3.495"  "584"   "507.98"  "21.753"
##                   "3.491"  "58"    "38.12"   "5.695"
##                   "3.435"  "30"    "16.02"   "4.07"
##                   "3.432"  "42"    "26.1"    "4.633"
##                   "3.378"  "507"   "451.42"  "16.452"
##                   "3.37"   "4"     "0.63"    "0.872"
##                   "3.364"  "83"    "55.4"    "8.204"
##                   "3.352"  "9"     "3.93"    "1.513"
##                   "3.352"  "22"    "11.3"    "3.192"
##                   "3.351"  "33"    "18.39"   "4.36"
##                   "3.35"   "8"     "2.59"    "1.615"
##                   "3.304"  "18"    "8.33"    "2.927"
##                   "3.2"    "14"    "6.06"    "2.482"
##                   "3.134"  "71"    "51.69"   "6.161"
##                   "3.086"  "125"   "93.38"   "10.246"
##                   "3.076"  "662"   "578.46"  "27.161"
##                   "3.059"  "154"   "120.34"  "11.004"
##                   "3.056"  "40"    "26.88"   "4.293"
##                   "3.039"  "155"   "121.49"  "11.027"
##                   "2.988"  "67"    "47.48"   "6.533"
##                   "2.981"  "21"    "11.85"   "3.069"
##                   "2.881"  "5"     "1.49"    "1.219"
##                   "2.881"  "5"     "1.49"    "1.219"
##                   "2.87"   "4"     "1.13"    "0.991"
##                   "2.849"  "43"    "28.16"   "5.208"
##                   "2.833"  "18"    "9.55"    "2.983"
##                   "2.762"  "82"    "61.09"   "7.571"
##                   "2.761"  "24"    "14.29"   "3.517"
##                   "2.752"  "61"    "43.95"   "6.194"
##                   "2.738"  "70"    "51.99"   "6.577"
##                   "2.725"  "38"    "25.52"   "4.58"
##                   "2.673"  "94"    "74.28"   "7.379"
##                   "2.661"  "27"    "16.74"   "3.855"
##                   "2.63"   "3"     "0.37"    "0.63"
```

```
##                   "2.608"   "70"      "51.13"     "7.234"
##                   "2.592"   "241"     "203.92"    "14.305"
##                   "2.59"    "3"       "0.41"      "0.621"
##                   "2.567"   "11"      "5.56"      "2.119"
##                   "2.523"   "28"      "17"        "4.36"
##                   "2.52"    "46"      "31.67"     "5.685"
##                   "2.503"   "31"      "20.74"     "4.099"
##                   "2.48"    "414"     "360.94"    "21.394"
##                   "2.477"   "36"      "25.21"     "4.356"
##                   "2.43"    "43"      "30.73"     "5.049"
##                   "2.382"   "147"     "121.63"    "10.651"
##                   "2.381"   "28"      "18.3"      "4.074"
##                   "2.362"   "176"     "152.21"    "10.074"
##                   "2.334"   "242"     "208.02"    "14.562"
##                   "2.331"   "4"       "1.41"      "1.111"
##                   "2.319"   "104"     "81.75"     "9.593"
##                   "2.317"   "22"      "13.28"     "3.763"
##                   "2.311"   "18"      "10.3"      "3.332"
##                   "2.308"   "6"       "2.59"      "1.478"
##                   "2.27"    "69"      "52.21"     "7.397"
##                   "2.26"    "12"      "6.86"      "2.274"
##                   "2.236"   "20"      "12.47"     "3.368"
##                   "2.216"   "121"     "102.47"    "8.361"
##                   "2.214"   "8"       "3.75"      "1.919"
##                   "2.187"   "22"      "14.24"     "3.548"
##                   "2.185"   "13145"   "12911.71"  "106.778"
##                   "2.166"   "44"      "31.74"     "5.66"
##                   "2.165"   "66"      "50.38"     "7.214"
##                   "2.164"   "21"      "13.52"     "3.457"
##                   "2.153"   "192"     "166.33"    "11.925"
##                   "2.136"   "20"      "12.94"     "3.305"
##                   "2.136"   "20"      "12.94"     "3.305"
##                   "2.135"   "24"      "16"        "3.747"
##                   "2.127"   "230"     "202.17"    "13.084"
##                   "2.107"   "39"      "27.93"     "5.254"
##                   "2.096"   "6"       "2.56"      "1.641"
##                   "2.056"   "18"      "11.36"     "3.23"
##                   "2.048"   "19"      "12.22"     "3.311"
##                   "2.037"   "36"      "25.57"     "5.121"
##                   "2.029"   "52"      "40.1"      "5.866"
##                   "2.02"    "52"      "40.19"     "5.846"
##                   "2.008"   "56"      "43.07"     "6.439"
##                   "2.007"   "117"     "101.97"    "7.489"
##                   "1.99"    "34"      "23.09"     "5.483"
##                   "1.99"    "34"      "23.09"     "5.483"
##                   "1.99"    "34"      "23.09"     "5.483"
##                   "1.966"   "63"      "49.42"     "6.908"
##                   "1.953"   "152"     "131.31"    "10.591"
##                   "1.93"    "2"       "0.07"      "0.256"
##                   "1.92"    "53"      "42.2"      "5.626"
##                   "1.88"    "56"      "43.3"      "6.756"
##                   "1.879"   "3"       "1.08"      "1.022"
##                   "1.876"   "70"      "55.92"     "7.506"
##                   "1.874"   "28"      "19.76"     "4.397"
```

```
##                     "1.87"    "177"   "152.38"   "13.165"
##                     "1.806"   "44"    "34.05"    "5.509"
##                     "1.763"   "25"    "17.2"     "4.424"
##                     "1.757"   "52"    "41.31"    "6.085"
##                     "1.755"   "37"    "28.59"    "4.791"
##                     "1.752"   "14"    "8.64"     "3.06"
##                     "1.746"   "130"   "111.72"   "10.472"
##                     "1.745"   "15"    "9.6"      "3.094"
##                     "1.743"   "164"   "143.42"   "11.81"
##                     "1.731"   "8"     "4.03"     "2.294"
##                     "1.729"   "46"    "35.52"    "6.063"
##                     "1.72"    "53"    "42.14"    "6.315"
##                     "1.708"   "34"    "26.82"    "4.203"
##                     "1.701"   "4"     "1.87"     "1.253"
##                     "1.69"    "1428"  "1375.37"  "31.135"
##                     "1.687"   "732"   "677.35"   "32.391"
##                     "1.653"   "20"    "14.08"    "3.581"
##                     "1.64"    "2"     "0.36"     "0.628"
##                     "1.637"   "5"     "2.39"     "1.595"
##                     "1.616"   "10"    "6.21"     "2.345"
##                     "1.616"   "225"   "204.87"   "12.455"
##                     "1.612"   "6"     "2.99"     "1.867"
##                     "1.605"   "15"    "9.96"     "3.14"
##                     "1.604"   "8"     "4.62"     "2.107"
##                     "1.557"   "7"     "4.28"     "1.747"
##                     "1.544"   "90"    "76.2"     "8.937"
##                     "1.534"   "105"   "90.47"    "9.47"
##                     "1.533"   "190"   "169.33"   "13.48"
##                     "1.528"   "48"    "38.72"    "6.074"
##                     "1.494"   "119"   "103.9"    "10.109"
##                     "1.474"   "75"    "63.97"    "7.481"
##                     "1.467"   "20"    "14.84"    "3.518"
##                     "1.451"   "28"    "20.77"    "4.983"
##                     "1.442"   "109"   "95.52"    "9.348"
##                     "1.435"   "16"    "11.54"    "3.109"
##                     "1.416"   "28"    "21.59"    "4.526"
##                     "1.41"    "2"     "0.59"     "0.698"
##                     "1.368"   "90"    "77.83"    "8.895"
##                     "1.322"   "62"    "52.83"    "6.936"
##                     "1.309"   "37"    "29.71"    "5.571"
##                     "1.3"     "131"   "117.34"   "10.51"
##                     "1.282"   "109"   "97.91"    "8.653"
##                     "1.279"   "42"    "34.3"     "6.021"
##                     "1.278"   "44"    "36.92"    "5.541"
##                     "1.251"   "7"     "4.41"     "2.07"
##                     "1.234"   "15"    "11.23"    "3.055"
##                     "1.218"   "10"    "6.67"     "2.734"
##                     "1.215"   "3"     "1.53"     "1.21"
##                     "1.2"     "2"     "0.8"      "0.865"
##                     "1.197"   "55"    "46.8"     "6.85"
##                     "1.193"   "47"    "39.75"    "6.079"
##                     "1.187"   "51"    "43.69"    "6.157"
##                     "1.184"   "43"    "36.17"    "5.767"
##                     "1.159"   "35"    "29.61"    "4.649"
```

```
##                    "1.156"  "6"      "3.78"    "1.921"
##                    "1.154"  "29"     "23.54"   "4.73"
##                    "1.143"  "56"     "48.79"   "6.309"
##                    "1.096"  "11"     "7.65"    "3.056"
##                    "1.085"  "4"      "2.47"    "1.41"
##                    "1.073"  "30"     "24.38"   "5.235"
##                    "1.066"  "19"     "14.64"   "4.091"
##                    "1.052"  "11"     "7.94"    "2.909"
##                    "1.044"  "88"     "80.13"   "7.535"
##                    "1.012"  "45"     "39.15"   "5.781"
##                    "1.004"  "54"     "47.32"   "6.656"
##                    "0.99"   "3"      "1.69"    "1.323"
##                    "0.99"   "3"      "1.69"    "1.323"
##                    "0.989"  "15"     "11.63"   "3.407"
##                    "0.97"   "2"      "1.03"    "0.958"
##                    "0.966"  "3"      "1.71"    "1.336"
##                    "0.955"  "15"     "11.37"   "3.8"
##                    "0.941"  "64"     "57.11"   "7.319"
##                    "0.924"  "2"      "1.05"    "1.029"
##                    "0.916"  "552"    "529.89"  "24.141"
##                    "0.899"  "74"     "66.97"   "7.818"
##                    "0.893"  "5"      "3.54"    "1.636"
##                    "0.889"  "5"      "3.43"    "1.765"
##                    "0.884"  "9258"   "9172.62" "96.59"
##                    "0.881"  "3"      "1.85"    "1.306"
##                    "0.877"  "85"     "77.92"   "8.078"
##                    "0.872"  "10"     "7.42"    "2.958"
##                    "0.863"  "119"    "109.37"  "11.163"
##                    "0.86"   "1"      "0.14"    "0.349"
##                    "0.86"   "1"      "0.14"    "0.377"
##                    "0.853"  "13"     "10.28"   "3.188"
##                    "0.84"   "1"      "0.16"    "0.395"
##                    "0.838"  "51"     "45.19"   "6.929"
##                    "0.809"  "666"    "644.35"  "26.769"
##                    "0.808"  "9"      "7.08"    "2.377"
##                    "0.797"  "2"      "1.18"    "1.029"
##                    "0.794"  "11"     "8.76"    "2.822"
##                    "0.776"  "31"     "27.04"   "5.103"
##                    "0.76"   "6"      "4.37"    "2.145"
##                    "0.745"  "5275"   "5220.25" "73.504"
##                    "0.74"   "28"     "25"      "4.055"
##                    "0.739"  "2"      "1.26"    "1.001"
##                    "0.73"   "218"    "207.2"   "14.8"
##                    "0.729"  "30"     "26.53"   "4.762"
##                    "0.728"  "29"     "26.05"   "4.051"
##                    "0.72"   "47"     "42.84"   "5.78"
##                    "0.716"  "42"     "37.8"    "5.864"
##                    "0.7"    "17"     "14.42"   "3.685"
##                    "0.655"  "4"      "2.95"    "1.604"
##                    "0.634"  "31"     "27.92"   "4.859"
##                    "0.614"  "3"      "2.04"    "1.563"
##                    "0.582"  "12"     "10.22"   "3.06"
##                    "0.581"  "182"    "174.49"  "12.924"
##                    "0.58"   "1"      "0.42"    "0.654"
```

```
##                      "0.576"  "20"   "17.48"    "4.373"
##                      "0.571"  "48"   "44.26"    "6.547"
##                      "0.553"  "7"    "5.66"     "2.421"
##                      "0.544"  "3"    "2.17"     "1.525"
##                      "0.527"  "4"    "3.13"     "1.649"
##                      "0.517"  "13"   "11.39"    "3.114"
##                      "0.505"  "357"  "347.49"   "18.826"
##                      "0.498"  "175"  "168.69"   "12.678"
##                      "0.495"  "4"    "3.11"     "1.797"
##                      "0.473"  "4"    "3.11"     "1.88"
##                      "0.467"  "181"  "174.71"   "13.477"
##                      "0.463"  "2"    "1.4"      "1.295"
##                      "0.463"  "3"    "2.2"      "1.729"
##                      "0.416"  "91"   "87.41"    "8.64"
##                      "0.399"  "5"    "4.19"     "2.029"
##                      "0.39"   "1"    "0.61"     "0.777"
##                      "0.388"  "11"   "9.74"     "3.246"
##                      "0.379"  "22"   "20.54"    "3.854"
##                      "0.37"   "1"    "0.63"     "0.787"
##                      "0.366"  "28"   "26.51"    "4.076"
##                      "0.359"  "39"   "36.77"    "6.216"
##                      "0.343"  "16"   "14.72"    "3.736"
##                      "0.315"  "29"   "27.66"    "4.26"
##                      "0.315"  "6"    "5.36"     "2.033"
##                      "0.312"  "7"    "6.31"     "2.214"
##                      "0.312"  "7"    "6.31"     "2.214"
##                      "0.305"  "15"   "13.96"    "3.411"
##                      "0.294"  "43"   "41.19"    "6.148"
##                      "0.29"   "1"    "0.71"     "0.844"
##                      "0.281"  "325"  "320"      "17.801"
##                      "0.279"  "119"  "116.36"   "9.456"
##                      "0.263"  "41"   "39.31"    "6.425"
##                      "0.251"  "6"    "5.4"      "2.387"
##                      "0.248"  "122"  "119.18"   "11.367"
##                      "0.24"   "1"    "0.76"     "0.922"
##                      "0.24"   "1"    "0.76"     "0.922"
##                      "0.239"  "17"   "15.95"    "4.402"
##                      "0.232"  "182"  "178.73"   "14.08"
##                      "0.222"  "104"  "101.93"   "9.343"
##                      "0.188"  "3"    "2.69"     "1.65"
##                      "0.173"  "18"   "17.29"    "4.115"
##                      "0.169"  "26"   "25.13"    "5.152"
##                      "0.164"  "20"   "19.33"    "4.09"
##                      "0.164"  "3"    "2.75"     "1.52"
##                      "0.154"  "3"    "2.78"     "1.425"
##                      "0.141"  "5"    "4.71"     "2.061"
##                      "0.125"  "263"  "261.4"    "12.809"
##                      "0.11"   "1"    "0.89"     "0.875"
##                      "0.1"    "1"    "0.9"      "0.859"
##                      "0.099"  "14"   "13.64"    "3.634"
##                      "0.096"  "5"    "4.79"     "2.189"
##                      "0.083"  "12"   "11.72"    "3.373"
##                      "0.078"  "11"   "10.73"    "3.44"
##                      "0.067"  "13"   "12.77"    "3.437"
```

```
##                   "0.066" "33"   "32.61"  "5.883"
##                   "0.064" "8"    "7.83"   "2.64"
##                   "0.049" "21"   "20.77"  "4.686"
##                   "0.044" "2"    "1.94"   "1.362"
##                   "0.029" "871"  "870.15" "28.913"
##                   "0.02"  "6"    "5.95"   "2.476"
##                   "0.02"  "34"   "33.87"  "6.348"
##                   "0.012" "20"   "19.95"  "4.208"
##                   "0.011" "4"    "3.98"   "1.758"
##                   "0.005" "3"    "2.99"   "1.951"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "0"     "0"    "0"      "0"
##                   "-0.006" "92"  "92.06"  "9.268"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "8"    "8.03"   "2.921"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.01" "0"    "0.01"   "0.1"
##                   "-0.015" "7"   "7.04"   "2.693"
##                   "-0.016" "41"  "41.09"  "5.777"
##                   "-0.02" "0"    "0.02"   "0.141"
##                   "-0.02" "0"    "0.02"   "0.141"
##                   "-0.02" "0"    "0.02"   "0.141"
```

```
##                        "-0.03"    "0"       "0.03"       "0.171"
##                        "-0.03"    "0"       "0.03"       "0.171"
##                        "-0.03"    "0"       "0.03"       "0.171"
##                        "-0.03"    "0"       "0.03"       "0.171"
##                        "-0.03"    "0"       "0.03"       "0.171"
##                        "-0.037"   "137"     "137.47"     "12.635"
##                        "-0.04"    "0"       "0.04"       "0.197"
##                        "-0.04"    "0"       "0.04"       "0.197"
##                        "-0.04"    "0"       "0.04"       "0.197"
##                        "-0.05"    "0"       "0.05"       "0.219"
##                        "-0.05"    "0"       "0.05"       "0.219"
##                        "-0.053"   "6"       "6.12"       "2.28"
##                        "-0.055"   "5"       "5.13"       "2.347"
##                        "-0.06"    "0"       "0.06"       "0.239"
##                        "-0.06"    "0"       "0.06"       "0.239"
##                        "-0.06"    "0"       "0.06"       "0.239"
##                        "-0.06"    "0"       "0.06"       "0.239"
##                        "-0.06"    "0"       "0.06"       "0.239"
##                        "-0.06"    "0"       "0.06"       "0.239"
##                        "-0.065"   "9"       "9.18"       "2.765"
##                        "-0.07"    "0"       "0.07"       "0.256"
##                        "-0.071"   "1464"    "1466.53"    "35.839"
##                        "-0.075"   "26"      "26.36"      "4.775"
##                        "-0.08"    "0"       "0.08"       "0.273"
##                        "-0.08"    "0"       "0.08"       "0.273"
##                        "-0.08"    "0"       "0.08"       "0.273"
##                        "-0.085"   "37"      "37.47"      "5.507"
##                        "-0.09"    "0"       "0.09"       "0.321"
##                        "-0.09"    "0"       "0.09"       "0.288"
##                        "-0.09"    "0"       "0.09"       "0.321"
##                        "-0.09"    "0"       "0.09"       "0.288"
##                        "-0.09"    "0"       "0.09"       "0.288"
##                        "-0.1"     "0"       "0.1"        "0.302"
##                        "-0.1"     "0"       "0.1"        "0.302"
##                        "-0.1"     "0"       "0.1"        "0.302"
##                        "-0.1"     "0"       "0.1"        "0.302"
##                        "-0.1"     "0"       "0.1"        "0.302"
##                        "-0.1"     "0"       "0.1"        "0.333"
##                        "-0.102"   "4"       "4.19"       "1.862"
##                        "-0.103"   "3"       "3.16"       "1.549"
##                        "-0.103"   "3"       "3.16"       "1.549"
##                        "-0.11"    "0"       "0.11"       "0.345"
##                        "-0.11"    "0"       "0.11"       "0.345"
##                        "-0.11"    "0"       "0.11"       "0.314"
##                        "-0.11"    "0"       "0.11"       "0.314"
##                        "-0.11"    "0"       "0.11"       "0.345"
##                        "-0.11"    "0"       "0.11"       "0.345"
##                        "-0.12"    "0"       "0.12"       "0.327"
##                        "-0.12"    "0"       "0.12"       "0.327"
##                        "-0.12"    "1"       "1.12"       "0.935"
##                        "-0.124"   "9"       "9.34"       "2.742"
##                        "-0.127"   "11"      "11.44"      "3.471"
##                        "-0.127"   "11"      "11.44"      "3.471"
##                        "-0.13"    "0"       "0.13"       "0.367"
```

```
##                        "-0.13"    "0"      "0.13"     "0.367"
##                        "-0.13"    "0"      "0.13"     "0.338"
##                        "-0.13"    "0"      "0.13"     "0.338"
##                        "-0.14"    "0"      "0.14"     "0.349"
##                        "-0.14"    "0"      "0.14"     "0.349"
##                        "-0.14"    "0"      "0.14"     "0.403"
##                        "-0.14"    "0"      "0.14"     "0.349"
##                        "-0.14"    "0"      "0.14"     "0.349"
##                        "-0.14"    "0"      "0.14"     "0.349"
##                        "-0.144"   "65"     "66.14"    "7.891"
##                        "-0.15"    "0"      "0.15"     "0.458"
##                        "-0.154"   "1"      "1.16"     "1.042"
##                        "-0.16"    "0"      "0.16"     "0.465"
##                        "-0.17"    "0"      "0.17"     "0.378"
##                        "-0.17"    "0"      "0.17"     "0.451"
##                        "-0.18"    "0"      "0.18"     "0.411"
##                        "-0.18"    "0"      "0.18"     "0.411"
##                        "-0.181"   "3"      "3.32"     "1.763"
##                        "-0.19"    "0"      "0.19"     "0.465"
##                        "-0.19"    "0"      "0.19"     "0.443"
##                        "-0.19"    "0"      "0.19"     "0.419"
##                        "-0.195"   "2"      "2.31"     "1.594"
##                        "-0.2"     "0"      "0.2"      "0.449"
##                        "-0.2"     "0"      "0.2"      "0.426"
##                        "-0.2"     "0"      "0.2"      "0.492"
##                        "-0.201"   "45"     "46.5"     "7.47"
##                        "-0.21"    "0"      "0.21"     "0.456"
##                        "-0.21"    "0"      "0.21"     "0.456"
##                        "-0.21"    "0"      "0.21"     "0.409"
##                        "-0.214"   "2"      "2.31"     "1.447"
##                        "-0.217"   "70"     "71.85"    "8.51"
##                        "-0.218"   "51"     "52.51"    "6.929"
##                        "-0.218"   "3"      "3.38"     "1.739"
##                        "-0.22"    "0"      "0.22"     "0.484"
##                        "-0.22"    "0"      "0.22"     "0.462"
##                        "-0.222"   "5"      "5.53"     "2.385"
##                        "-0.227"   "24"     "25.13"    "4.986"
##                        "-0.23"    "0"      "0.23"     "0.51"
##                        "-0.237"   "14"     "14.82"    "3.454"
##                        "-0.24"    "0"      "0.24"     "0.474"
##                        "-0.24"    "0"      "0.24"     "0.495"
##                        "-0.24"    "0"      "0.24"     "0.534"
##                        "-0.24"    "0"      "0.24"     "0.495"
##                        "-0.248"   "155"    "158.11"   "12.516"
##                        "-0.25"    "0"      "0.25"     "0.458"
##                        "-0.25"    "0"      "0.25"     "0.575"
##                        "-0.25"    "0"      "0.25"     "0.458"
##                        "-0.251"   "16"     "17.09"    "4.342"
##                        "-0.252"   "1"      "1.28"     "1.111"
##                        "-0.252"   "25"     "26.33"    "5.271"
##                        "-0.254"   "4"      "4.47"     "1.85"
##                        "-0.255"   "28"     "29.21"    "4.753"
##                        "-0.256"   "4"      "4.5"      "1.951"
##                        "-0.264"   "1"      "1.27"     "1.024"
```

```
##                     "-0.268"  "3"   "3.48"   "1.789"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.51"
##                     "-0.27"   "0"   "0.27"   "0.489"
##                     "-0.28"   "4"   "4.54"   "1.93"
##                     "-0.28"   "0"   "0.28"   "0.57"
##                     "-0.289"  "1"   "1.35"   "1.209"
##                     "-0.3"    "0"   "0.3"    "0.503"
##                     "-0.303"  "3"   "3.54"   "1.783"
##                     "-0.31"   "0"   "0.31"   "0.563"
##                     "-0.315"  "31"  "32.75"  "5.56"
##                     "-0.33"   "0"   "0.33"   "0.551"
##                     "-0.33"   "0"   "0.33"   "0.57"
##                     "-0.331"  "4"   "4.64"   "1.931"
##                     "-0.336"  "1"   "1.43"   "1.281"
##                     "-0.34"   "0"   "0.34"   "0.555"
##                     "-0.34"   "0"   "0.34"   "0.517"
##                     "-0.35"   "0"   "0.35"   "0.592"
##                     "-0.35"   "1"   "1.35"   "0.978"
##                     "-0.35"   "0"   "0.35"   "0.557"
##                     "-0.35"   "0"   "0.35"   "0.539"
##                     "-0.356"  "66"  "68.86"  "8.037"
##                     "-0.36"   "5"   "5.82"   "2.28"
##                     "-0.36"   "0"   "0.36"   "0.595"
##                     "-0.361"  "1"   "1.38"   "1.052"
##                     "-0.373"  "4"   "4.85"   "2.276"
##                     "-0.374"  "2"   "2.67"   "1.793"
##                     "-0.377"  "2"   "2.64"   "1.697"
##                     "-0.378"  "12"  "13.34"  "3.543"
##                     "-0.38"   "0"   "0.38"   "0.599"
##                     "-0.39"   "0"   "0.39"   "0.65"
##                     "-0.39"   "0"   "0.39"   "0.65"
##                     "-0.392"  "4"   "4.91"   "2.319"
##                     "-0.397"  "4"   "4.92"   "2.317"
##                     "-0.4"    "0"   "0.4"    "0.586"
##                     "-0.4"    "0"   "0.4"    "0.586"
##                     "-0.41"   "0"   "0.41"   "0.621"
##                     "-0.41"   "0"   "0.41"   "0.637"
##                     "-0.414"  "6"   "7.04"   "2.51"
##                     "-0.42"   "0"   "0.42"   "0.669"
##                     "-0.434"  "23"  "24.74"  "4.009"
##                     "-0.435"  "13"  "14.66"  "3.814"
##                     "-0.437"  "7"   "8.21"   "2.768"
##                     "-0.44"   "1"   "1.55"   "1.25"
##                     "-0.44"   "0"   "0.44"   "0.729"
##                     "-0.442"  "6"   "7.24"   "2.804"
```

```
##                    "-0.45"   "0"      "0.45"     "0.609"
##                    "-0.45"   "0"      "0.45"     "0.73"
##                    "-0.454"  "1"      "1.53"     "1.167"
##                    "-0.456"  "27"     "29.45"    "5.377"
##                    "-0.459"  "247"    "254.25"   "15.78"
##                    "-0.46"   "0"      "0.46"     "0.626"
##                    "-0.46"   "0"      "0.46"     "0.626"
##                    "-0.46"   "0"      "0.46"     "0.642"
##                    "-0.46"   "0"      "0.46"     "0.61"
##                    "-0.46"   "0"      "0.46"     "0.61"
##                    "-0.465"  "2"      "2.73"     "1.569"
##                    "-0.467"  "6"      "7.2"      "2.57"
##                    "-0.474"  "1"      "1.67"     "1.415"
##                    "-0.476"  "1"      "1.72"     "1.511"
##                    "-0.476"  "2"      "2.72"     "1.511"
##                    "-0.48"   "1"      "1.61"     "1.27"
##                    "-0.48"   "0"      "0.48"     "0.689"
##                    "-0.48"   "0"      "0.48"     "0.689"
##                    "-0.482"  "1"      "1.57"     "1.183"
##                    "-0.483"  "592"    "604.02"   "24.864"
##                    "-0.495"  "1"      "1.56"     "1.131"
##                    "-0.497"  "98"     "102.37"   "8.792"
##                    "-0.507"  "3"      "4.03"     "2.032"
##                    "-0.51"   "0"      "0.51"     "0.859"
##                    "-0.51"   "0"      "0.51"     "0.785"
##                    "-0.512"  "47"     "50.43"    "6.696"
##                    "-0.519"  "8"      "9.51"     "2.911"
##                    "-0.52"   "54"     "57.73"    "7.169"
##                    "-0.52"   "0"      "0.52"     "0.785"
##                    "-0.52"   "1"      "1.6"      "1.155"
##                    "-0.52"   "0"      "0.52"     "0.717"
##                    "-0.521"  "105"    "110.4"    "10.365"
##                    "-0.53"   "0"      "0.53"     "0.643"
##                    "-0.53"   "0"      "0.53"     "0.745"
##                    "-0.53"   "0"      "0.53"     "0.745"
##                    "-0.54"   "0"      "0.54"     "0.744"
##                    "-0.542"  "1"      "1.68"     "1.254"
##                    "-0.548"  "3"      "4.21"     "2.208"
##                    "-0.553"  "12"     "13.98"    "3.582"
##                    "-0.56"   "0"      "0.56"     "0.743"
##                    "-0.567"  "2"      "2.82"     "1.445"
##                    "-0.58"   "0"      "0.58"     "0.794"
##                    "-0.58"   "0"      "0.58"     "0.794"
##                    "-0.58"   "0"      "0.58"     "0.699"
##                    "-0.58"   "0"      "0.58"     "0.755"
##                    "-0.583"  "1"      "1.84"     "1.441"
##                    "-0.585"  "1"      "1.77"     "1.317"
##                    "-0.586"  "3"      "4.35"     "2.302"
##                    "-0.59"   "0"      "0.59"     "0.83"
##                    "-0.598"  "1"      "1.66"     "1.103"
##                    "-0.6"    "0"      "0.6"      "0.739"
##                    "-0.6"    "0"      "0.6"      "0.765"
##                    "-0.6"    "0"      "0.6"      "0.791"
##                    "-0.6"    "0"      "0.6"      "0.752"
```

```
##                   "-0.602"  "9"      "11"       "3.321"
##                   "-0.602"  "9"      "11"       "3.321"
##                   "-0.607"  "192"    "199.99"   "13.171"
##                   "-0.61"   "0"      "0.61"     "0.751"
##                   "-0.61"   "0"      "0.61"     "0.723"
##                   "-0.61"   "0"      "0.61"     "0.764"
##                   "-0.61"   "0"      "0.61"     "0.723"
##                   "-0.612"  "100"    "106.01"   "9.82"
##                   "-0.614"  "1636"   "1661.14"  "40.943"
##                   "-0.616"  "4"      "5.4"      "2.274"
##                   "-0.618"  "11"     "13.06"    "3.336"
##                   "-0.625"  "31"     "34.8"     "6.082"
##                   "-0.626"  "74"     "79.18"    "8.275"
##                   "-0.63"   "0"      "0.63"     "0.812"
##                   "-0.632"  "1"      "1.97"     "1.534"
##                   "-0.636"  "3"      "4.35"     "2.124"
##                   "-0.636"  "3"      "4.35"     "2.124"
##                   "-0.64"   "0"      "0.64"     "0.859"
##                   "-0.64"   "0"      "0.64"     "0.785"
##                   "-0.64"   "0"      "0.64"     "0.746"
##                   "-0.645"  "1"      "1.92"     "1.426"
##                   "-0.645"  "1"      "1.92"     "1.426"
##                   "-0.645"  "2"      "3.06"     "1.644"
##                   "-0.645"  "2"      "3.12"     "1.737"
##                   "-0.645"  "1"      "1.92"     "1.426"
##                   "-0.65"   "0"      "0.65"     "0.857"
##                   "-0.65"   "0"      "0.65"     "0.77"
##                   "-0.65"   "0"      "0.65"     "0.77"
##                   "-0.65"   "0"      "0.65"     "0.796"
##                   "-0.65"   "0"      "0.65"     "0.757"
##                   "-0.65"   "0"      "0.65"     "0.77"
##                   "-0.65"   "0"      "0.65"     "0.857"
##                   "-0.672"  "80"     "86.1"     "9.073"
##                   "-0.677"  "23"     "26.64"    "5.38"
##                   "-0.683"  "81"     "86.88"    "8.607"
##                   "-0.69"   "0"      "0.69"     "0.861"
##                   "-0.698"  "1"      "1.84"     "1.204"
##                   "-0.698"  "220"    "231.31"   "16.204"
##                   "-0.699"  "84"     "90.33"    "9.054"
##                   "-0.7"    "0"      "0.7"      "0.772"
##                   "-0.702"  "8"      "10.2"     "3.133"
##                   "-0.704"  "2"      "3.13"     "1.606"
##                   "-0.71"   "1"      "2.08"     "1.522"
##                   "-0.71"   "0"      "0.71"     "0.769"
##                   "-0.713"  "7"      "9.01"     "2.819"
##                   "-0.716"  "1"      "1.92"     "1.285"
##                   "-0.72"   "0"      "0.72"     "0.877"
##                   "-0.72"   "0"      "0.72"     "0.877"
##                   "-0.72"   "0"      "0.72"     "0.866"
##                   "-0.721"  "8"      "10.1"     "2.915"
##                   "-0.722"  "11"     "13.53"    "3.503"
##                   "-0.722"  "16"     "19.45"    "4.781"
##                   "-0.73"   "0"      "0.73"     "0.709"
##                   "-0.73"   "0"      "0.73"     "0.777"
```

```
##                      "-0.73"    "0"      "0.73"    "0.863"
##                      "-0.73"    "0"      "0.73"    "0.93"
##                      "-0.73"    "0"      "0.73"    "0.874"
##                      "-0.731"   "1"      "2.15"    "1.572"
##                      "-0.735"   "17"     "20.21"   "4.368"
##                      "-0.735"   "17"     "20.21"   "4.368"
##                      "-0.738"   "1"      "2.09"    "1.478"
##                      "-0.74"    "56"     "61.85"   "7.904"
##                      "-0.744"   "1"      "2.02"    "1.371"
##                      "-0.744"   "1"      "2.02"    "1.371"
##                      "-0.749"   "3"      "4.48"    "1.977"
##                      "-0.75"    "0"      "0.75"    "0.88"
##                      "-0.75"    "0"      "0.75"    "0.783"
##                      "-0.754"   "0"      "0.79"    "1.047"
##                      "-0.754"   "18"     "20.99"   "3.963"
##                      "-0.756"   "303"    "320.42"  "23.038"
##                      "-0.757"   "4"      "5.9"     "2.509"
##                      "-0.76"    "0"      "0.76"    "0.806"
##                      "-0.761"   "87"     "94.58"   "9.958"
##                      "-0.764"   "42"     "47.06"   "6.619"
##                      "-0.766"   "1"      "1.97"    "1.267"
##                      "-0.766"   "1"      "1.97"    "1.267"
##                      "-0.767"   "17"     "20.12"   "4.068"
##                      "-0.768"   "1"      "2.1"     "1.432"
##                      "-0.773"   "4"      "5.75"    "2.262"
##                      "-0.78"    "0"      "0.78"    "0.905"
##                      "-0.78"    "0"      "0.87"    "1.116"
##                      "-0.78"    "0"      "0.78"    "0.917"
##                      "-0.782"   "17"     "20.39"   "4.337"
##                      "-0.79"    "0"      "0.79"    "0.832"
##                      "-0.79"    "0"      "0.79"    "0.902"
##                      "-0.79"    "0"      "0.79"    "0.902"
##                      "-0.79"    "0"      "0.79"    "0.88"
##                      "-0.799"   "1"      "2.09"    "1.364"
##                      "-0.8"     "9"      "11.37"   "2.963"
##                      "-0.808"   "1"      "2.25"    "1.546"
##                      "-0.809"   "92"     "99.94"   "9.815"
##                      "-0.81"    "1"      "2.14"    "1.407"
##                      "-0.81"    "5"      "6.91"    "2.357"
##                      "-0.81"    "0"      "0.81"    "0.849"
##                      "-0.816"   "1"      "2.12"    "1.373"
##                      "-0.817"   "5"      "7.19"    "2.681"
##                      "-0.82"    "0"      "0.82"    "0.881"
##                      "-0.826"   "13"     "16.2"    "3.874"
##                      "-0.83"    "0"      "0.83"    "0.817"
##                      "-0.832"   "189"    "199.78"  "12.954"
##                      "-0.839"   "18"     "21.82"   "4.551"
##                      "-0.84"    "0"      "0.84"    "0.861"
##                      "-0.847"   "79"     "85.83"   "8.06"
##                      "-0.847"   "1"      "2.26"    "1.488"
##                      "-0.85"    "0"      "0.85"    "0.925"
##                      "-0.857"   "3"      "5.08"    "2.427"
##                      "-0.858"   "3"      "5.18"    "2.54"
##                      "-0.862"   "0"      "0.94"    "1.09"
```

```
##                       "-0.863"  "1"    "2.21"    "1.402"
##                       "-0.864"  "15"   "18.53"   "4.084"
##                       "-0.88"   "0"    "0.88"    "0.946"
##                       "-0.881"  "1"    "2.16"    "1.316"
##                       "-0.882"  "62"   "68.79"   "7.701"
##                       "-0.885"  "2"    "3.69"    "1.911"
##                       "-0.891"  "28"   "32.78"   "5.367"
##                       "-0.892"  "6"    "8.52"    "2.827"
##                       "-0.892"  "0"    "1.01"    "1.133"
##                       "-0.908"  "2"    "3.7"     "1.872"
##                       "-0.91"   "0"    "0.91"    "0.922"
##                       "-0.91"   "0"    "0.91"    "0.866"
##                       "-0.919"  "1"    "2.42"    "1.545"
##                       "-0.927"  "2"    "3.98"    "2.137"
##                       "-0.944"  "37"   "43.98"   "7.394"
##                       "-0.945"  "2"    "3.73"    "1.83"
##                       "-0.947"  "85"   "94.89"   "10.446"
##                       "-0.948"  "14"   "18.19"   "4.419"
##                       "-0.951"  "1"    "2.34"    "1.409"
##                       "-0.952"  "0"    "0.99"    "1.04"
##                       "-0.959"  "2"    "3.69"    "1.762"
##                       "-0.961"  "85"   "92.78"   "8.094"
##                       "-0.965"  "264"  "279.24"  "15.799"
##                       "-0.968"  "8"    "10.99"   "3.09"
##                       "-0.968"  "1"    "2.41"    "1.457"
##                       "-0.97"   "0"    "0.97"    "0.979"
##                       "-0.97"   "0"    "0.97"    "0.969"
##                       "-0.987"  "2"    "4.41"    "2.442"
##                       "-0.989"  "0"    "1.09"    "1.102"
##                       "-0.991"  "0"    "1.03"    "1.039"
##                       "-0.993"  "0"    "1.05"    "1.058"
##                       "-0.994"  "218"  "232.46"  "14.542"
##                       "-0.997"  "1"    "2.41"    "1.415"
##                       "-0.999"  "4"    "6.97"    "2.973"
##                       "-0.999"  "6"    "8.72"    "2.723"
##                       "-1.002"  "60"   "68.51"   "8.495"
##                       "-1.005"  "1"    "2.56"    "1.553"
##                       "-1.007"  "2"    "3.76"    "1.747"
##                       "-1.01"   "0"    "1.01"    "0.98"
##                       "-1.013"  "1"    "2.98"    "1.954"
##                       "-1.013"  "0"    "1.17"    "1.155"
##                       "-1.015"  "63"   "70.74"   "7.625"
##                       "-1.016"  "7"    "10.18"   "3.131"
##                       "-1.017"  "0"    "1.06"    "1.043"
##                       "-1.019"  "0"    "1.28"    "1.256"
##                       "-1.02"   "0"    "1.02"    "0.974"
##                       "-1.021"  "232"  "248.13"  "15.802"
##                       "-1.021"  "0"    "1.1"     "1.078"
##                       "-1.024"  "76"   "84.63"   "8.426"
##                       "-1.024"  "3"    "5.33"    "2.274"
##                       "-1.025"  "27"   "32.08"   "4.958"
##                       "-1.025"  "4"    "6.21"    "2.157"
##                       "-1.027"  "0"    "1.18"    "1.149"
##                       "-1.03"   "0"    "1.03"    "1"
```

```
##                  "-1.03"   "0"     "1.03"    "0.979"
##                  "-1.032"  "0"     "1.07"    "1.037"
##                  "-1.04"   "25"    "29.97"   "4.777"
##                  "-1.041"  "20"    "24.34"   "4.169"
##                  "-1.045"  "5"     "8"       "2.871"
##                  "-1.047"  "38"    "44.14"   "5.866"
##                  "-1.05"   "0"     "1.05"    "0.978"
##                  "-1.05"   "0"     "1.05"    "0.968"
##                  "-1.05"   "0"     "1.05"    "0.968"
##                  "-1.05"   "0"     "1.05"    "0.968"
##                  "-1.057"  "7"     "10.05"   "2.886"
##                  "-1.058"  "1"     "2.75"    "1.654"
##                  "-1.06"   "0"     "1.06"    "0.941"
##                  "-1.066"  "4"     "6.86"    "2.682"
##                  "-1.067"  "2"     "4.27"    "2.127"
##                  "-1.072"  "4"     "6.33"    "2.174"
##                  "-1.077"  "79"    "88.51"   "8.831"
##                  "-1.077"  "1"     "2.96"    "1.82"
##                  "-1.08"   "0"     "1.37"    "1.269"
##                  "-1.08"   "0"     "1.37"    "1.269"
##                  "-1.082"  "9"     "13.32"   "3.992"
##                  "-1.083"  "0"     "1.29"    "1.192"
##                  "-1.083"  "13"    "17.97"   "4.589"
##                  "-1.084"  "0"     "1.09"    "1.006"
##                  "-1.085"  "2"     "4.35"    "2.167"
##                  "-1.093"  "2"     "3.91"    "1.747"
##                  "-1.094"  "0"     "1.22"    "1.115"
##                  "-1.095"  "0"     "1.33"    "1.215"
##                  "-1.098"  "11"    "14.63"   "3.305"
##                  "-1.1"    "0"     "1.1"     "0.959"
##                  "-1.102"  "0"     "1.42"    "1.288"
##                  "-1.103"  "102"   "114.31"  "11.162"
##                  "-1.106"  "0"     "1.21"    "1.094"
##                  "-1.108"  "5"     "8.03"    "2.736"
##                  "-1.108"  "5"     "8.03"    "2.736"
##                  "-1.108"  "17"    "22.09"   "4.595"
##                  "-1.109"  "94"    "105.24"  "10.14"
##                  "-1.109"  "0"     "1.23"    "1.109"
##                  "-1.11"   "1"     "2.74"    "1.567"
##                  "-1.111"  "23"    "29.42"   "5.777"
##                  "-1.115"  "33"    "39.42"   "5.758"
##                  "-1.117"  "0"     "1.13"    "1.012"
##                  "-1.119"  "0"     "1.32"    "1.18"
##                  "-1.123"  "0"     "1.42"    "1.265"
##                  "-1.123"  "0"     "1.14"    "1.015"
##                  "-1.129"  "1"     "2.88"    "1.665"
##                  "-1.13"   "0"     "1.13"    "0.928"
##                  "-1.138"  "7"     "10.46"   "3.04"
##                  "-1.141"  "0"     "1.59"    "1.393"
##                  "-1.142"  "50"    "57"      "6.132"
##                  "-1.144"  "0"     "1.32"    "1.154"
##                  "-1.144"  "0"     "1.32"    "1.154"
##                  "-1.152"  "11"    "15.14"   "3.593"
##                  "-1.154"  "0"     "1.24"    "1.074"
```

```
##                    "-1.154"   "0"      "1.7"       "1.474"
##                    "-1.155"   "0"      "1.21"      "1.047"
##                    "-1.16"    "0"      "1.42"      "1.224"
##                    "-1.166"   "62"     "71.46"     "8.111"
##                    "-1.166"   "0"      "1.3"       "1.115"
##                    "-1.173"   "1"      "2.92"      "1.637"
##                    "-1.177"   "2"      "4"         "1.7"
##                    "-1.18"    "0"      "1.18"      "0.989"
##                    "-1.181"   "1"      "3.16"      "1.83"
##                    "-1.186"   "1"      "2.88"      "1.585"
##                    "-1.19"    "0"      "1.62"      "1.362"
##                    "-1.191"   "0"      "1.49"      "1.251"
##                    "-1.196"   "4"      "7.22"      "2.691"
##                    "-1.209"   "1"      "3.21"      "1.827"
##                    "-1.21"    "0"      "1.36"      "1.124"
##                    "-1.212"   "0"      "1.73"      "1.427"
##                    "-1.212"   "38"     "45.94"     "6.552"
##                    "-1.215"   "0"      "1.46"      "1.201"
##                    "-1.228"   "0"      "1.77"      "1.441"
##                    "-1.23"    "0"      "1.23"      "0.993"
##                    "-1.23"    "3"      "6.1"       "2.521"
##                    "-1.232"   "0"      "1.55"      "1.258"
##                    "-1.248"   "2"      "4.35"      "1.882"
##                    "-1.249"   "0"      "1.57"      "1.257"
##                    "-1.254"   "6"      "9.74"      "2.984"
##                    "-1.258"   "1719"   "1778.45"   "47.241"
##                    "-1.258"   "0"      "1.79"      "1.423"
##                    "-1.262"   "1"      "3.85"      "2.258"
##                    "-1.268"   "0"      "1.68"      "1.325"
##                    "-1.27"    "18"     "24.19"     "4.874"
##                    "-1.273"   "1"      "2.92"      "1.509"
##                    "-1.277"   "1"      "3.29"      "1.794"
##                    "-1.278"   "76"     "87.16"     "8.733"
##                    "-1.28"    "1"      "2.87"      "1.461"
##                    "-1.282"   "0"      "1.54"      "1.201"
##                    "-1.282"   "45"     "54.24"     "7.208"
##                    "-1.283"   "15"     "20.45"     "4.248"
##                    "-1.283"   "0"      "1.76"      "1.372"
##                    "-1.284"   "5"      "8.46"      "2.695"
##                    "-1.29"    "207"    "224.79"    "13.788"
##                    "-1.29"    "0"      "1.29"      "0.998"
##                    "-1.291"   "8"      "12.99"     "3.865"
##                    "-1.292"   "0"      "1.62"      "1.254"
##                    "-1.292"   "559"    "591.48"    "25.141"
##                    "-1.296"   "24"     "30.95"     "5.364"
##                    "-1.296"   "0"      "1.43"      "1.103"
##                    "-1.301"   "0"      "1.97"      "1.514"
##                    "-1.303"   "41"     "50.25"     "7.1"
##                    "-1.309"   "0"      "1.56"      "1.192"
##                    "-1.31"    "0"      "1.33"      "1.016"
##                    "-1.316"   "11"     "16.83"     "4.431"
##                    "-1.318"   "0"      "1.56"      "1.183"
##                    "-1.32"    "0"      "1.53"      "1.159"
##                    "-1.322"   "29"     "37.8"      "6.658"
```

```
##                    "-1.322"  "4"    "7.94"    "2.981"
##                    "-1.326"  "5"    "8.17"    "2.391"
##                    "-1.327"  "2"    "4.88"    "2.171"
##                    "-1.327"  "14"   "19.56"   "4.191"
##                    "-1.33"   "0"    "1.47"    "1.105"
##                    "-1.333"  "2"    "4.85"    "2.139"
##                    "-1.34"   "0"    "1.92"    "1.433"
##                    "-1.341"  "0"    "1.53"    "1.141"
##                    "-1.341"  "0"    "1.43"    "1.066"
##                    "-1.347"  "2"    "4.88"    "2.138"
##                    "-1.361"  "0"    "1.72"    "1.264"
##                    "-1.361"  "0"    "1.72"    "1.264"
##                    "-1.361"  "0"    "1.72"    "1.264"
##                    "-1.362"  "0"    "1.78"    "1.307"
##                    "-1.362"  "6"    "10.36"   "3.202"
##                    "-1.366"  "0"    "1.51"    "1.105"
##                    "-1.367"  "26"   "34.1"    "5.926"
##                    "-1.367"  "8"    "11.87"   "2.831"
##                    "-1.371"  "0"    "1.39"    "1.014"
##                    "-1.374"  "0"    "1.92"    "1.398"
##                    "-1.378"  "0"    "2.03"    "1.473"
##                    "-1.378"  "6"    "10.84"   "3.513"
##                    "-1.38"   "0"    "2.33"    "1.688"
##                    "-1.382"  "0"    "1.75"    "1.266"
##                    "-1.383"  "0"    "2.01"    "1.453"
##                    "-1.385"  "362"  "394.74"  "23.644"
##                    "-1.385"  "0"    "1.69"    "1.22"
##                    "-1.387"  "0"    "1.78"    "1.284"
##                    "-1.392"  "1"    "3.45"    "1.76"
##                    "-1.4"    "1"    "3.58"    "1.843"
##                    "-1.406"  "0"    "2.1"     "1.494"
##                    "-1.408"  "5"    "8.82"    "2.713"
##                    "-1.409"  "0"    "1.75"    "1.242"
##                    "-1.414"  "0"    "2.09"    "1.478"
##                    "-1.415"  "12"   "17.57"   "3.937"
##                    "-1.42"   "0"    "1.59"    "1.12"
##                    "-1.421"  "1"    "3.63"    "1.851"
##                    "-1.422"  "0"    "1.78"    "1.252"
##                    "-1.424"  "0"    "1.67"    "1.173"
##                    "-1.424"  "0"    "1.67"    "1.173"
##                    "-1.425"  "0"    "2.05"    "1.438"
##                    "-1.426"  "0"    "2.19"    "1.535"
##                    "-1.427"  "0"    "1.95"    "1.366"
##                    "-1.43"   "1"    "3.66"    "1.86"
##                    "-1.436"  "2"    "5.17"    "2.207"
##                    "-1.439"  "2"    "5.45"    "2.397"
##                    "-1.44"   "1"    "3.98"    "2.069"
##                    "-1.442"  "0"    "1.79"    "1.241"
##                    "-1.444"  "12"   "17.73"   "3.969"
##                    "-1.451"  "0"    "2.08"    "1.433"
##                    "-1.452"  "10"   "15.54"   "3.815"
##                    "-1.453"  "0"    "1.98"    "1.363"
##                    "-1.456"  "1"    "4.12"    "2.143"
##                    "-1.459"  "7"    "11.74"   "3.249"
```

```
##                     "-1.461"  "0"    "1.49"    "1.02"
##                     "-1.465"  "5"    "9.72"    "3.223"
##                     "-1.471"  "0"    "2.16"    "1.468"
##                     "-1.471"  "1"    "3.58"    "1.753"
##                     "-1.471"  "2"    "5.67"    "2.495"
##                     "-1.477"  "0"    "2.23"    "1.51"
##                     "-1.478"  "0"    "1.7"     "1.15"
##                     "-1.482"  "4"    "8.19"    "2.827"
##                     "-1.484"  "22"   "29.53"   "5.074"
##                     "-1.486"  "1"    "3.98"    "2.005"
##                     "-1.487"  "1"    "3.43"    "1.635"
##                     "-1.491"  "12"   "18.03"   "4.044"
##                     "-1.495"  "143"  "161.9"   "12.639"
##                     "-1.5"    "8"    "13.21"   "3.474"
##                     "-1.501"  "3"    "6.4"     "2.265"
##                     "-1.505"  "0"    "2.65"    "1.76"
##                     "-1.509"  "0"    "2"       "1.326"
##                     "-1.509"  "136"  "153.82"  "11.812"
##                     "-1.511"  "65"   "78.35"   "8.838"
##                     "-1.511"  "1"    "4.32"    "2.197"
##                     "-1.513"  "0"    "1.79"    "1.183"
##                     "-1.526"  "20"   "27.69"   "5.041"
##                     "-1.526"  "58"   "70.22"   "8.006"
##                     "-1.526"  "0"    "1.82"    "1.192"
##                     "-1.53"   "0"    "1.91"    "1.248"
##                     "-1.532"  "2"    "5.52"    "2.298"
##                     "-1.534"  "0"    "1.76"    "1.147"
##                     "-1.535"  "4"    "8.05"    "2.638"
##                     "-1.537"  "0"    "2.21"    "1.438"
##                     "-1.538"  "1"    "3.7"     "1.755"
##                     "-1.54"   "0"    "2.52"    "1.636"
##                     "-1.559"  "4"    "8.74"    "3.041"
##                     "-1.56"   "2"    "5.39"    "2.174"
##                     "-1.562"  "0"    "3.07"    "1.966"
##                     "-1.567"  "0"    "2.09"    "1.334"
##                     "-1.575"  "152"  "172.77"  "13.188"
##                     "-1.58"   "0"    "2.05"    "1.298"
##                     "-1.585"  "13"   "20.13"   "4.498"
##                     "-1.59"   "0"    "2.08"    "1.308"
##                     "-1.593"  "72"   "86.37"   "9.02"
##                     "-1.594"  "1"    "4.71"    "2.328"
##                     "-1.596"  "0"    "2.64"    "1.655"
##                     "-1.598"  "315"  "346.05"  "19.435"
##                     "-1.601"  "0"    "2.26"    "1.411"
##                     "-1.602"  "2"    "5.05"    "1.904"
##                     "-1.603"  "0"    "2.85"    "1.777"
##                     "-1.604"  "7"    "12.86"   "3.654"
##                     "-1.607"  "42"   "53.66"   "7.256"
##                     "-1.608"  "4"    "9.09"    "3.166"
##                     "-1.609"  "15"   "21.83"   "4.245"
##                     "-1.609"  "10"   "17.33"   "4.555"
##                     "-1.614"  "3"    "7.11"    "2.546"
##                     "-1.622"  "177"  "198.72"  "13.389"
##                     "-1.622"  "0"    "2.06"    "1.27"
```

```
##                    "-1.624"  "1"     "4.33"     "2.05"
##                    "-1.631"  "0"     "2.83"     "1.735"
##                    "-1.632"  "0"     "1.93"     "1.183"
##                    "-1.632"  "0"     "2.47"     "1.514"
##                    "-1.632"  "0"     "2.47"     "1.514"
##                    "-1.634"  "216"   "241.97"   "15.893"
##                    "-1.638"  "0"     "2.7"      "1.648"
##                    "-1.64"   "1"     "4.34"     "2.036"
##                    "-1.641"  "2"     "5.81"     "2.321"
##                    "-1.649"  "2"     "5.77"     "2.287"
##                    "-1.65"   "2"     "5.39"     "2.054"
##                    "-1.653"  "3"     "7.34"     "2.626"
##                    "-1.654"  "40"    "51.91"    "7.201"
##                    "-1.656"  "16"    "24.51"    "5.137"
##                    "-1.659"  "10"    "17.83"    "4.721"
##                    "-1.659"  "1"     "4.08"     "1.857"
##                    "-1.675"  "0"     "2.69"     "1.606"
##                    "-1.678"  "3"     "7.12"     "2.455"
##                    "-1.679"  "2"     "5.98"     "2.37"
##                    "-1.68"   "0"     "2.78"     "1.655"
##                    "-1.682"  "1"     "4.38"     "2.009"
##                    "-1.682"  "1"     "4.55"     "2.11"
##                    "-1.684"  "54"    "66.72"    "7.555"
##                    "-1.685"  "2"     "5.89"     "2.309"
##                    "-1.689"  "0"     "3.18"     "1.882"
##                    "-1.69"   "3"     "7.06"     "2.403"
##                    "-1.692"  "33"    "43.78"    "6.37"
##                    "-1.693"  "0"     "2.66"     "1.571"
##                    "-1.696"  "27"    "36.16"    "5.401"
##                    "-1.704"  "21"    "29.66"    "5.082"
##                    "-1.705"  "4"     "9.38"     "3.155"
##                    "-1.706"  "190"   "214.78"   "14.525"
##                    "-1.706"  "2"     "5.59"     "2.104"
##                    "-1.706"  "0"     "2.17"     "1.272"
##                    "-1.707"  "0"     "3.12"     "1.827"
##                    "-1.709"  "0"     "2.7"      "1.58"
##                    "-1.71"   "2"     "6.84"     "2.831"
##                    "-1.711"  "138"   "158.01"   "11.693"
##                    "-1.719"  "7"     "13.53"    "3.799"
##                    "-1.72"   "3"     "7.51"     "2.623"
##                    "-1.72"   "0"     "2.38"     "1.384"
##                    "-1.722"  "23"    "32.89"    "5.743"
##                    "-1.723"  "10"    "17.22"    "4.191"
##                    "-1.724"  "1"     "5.21"     "2.442"
##                    "-1.727"  "14"    "22.46"    "4.9"
##                    "-1.733"  "0"     "2.73"     "1.575"
##                    "-1.736"  "0"     "3.64"     "2.096"
##                    "-1.736"  "0"     "3.17"     "1.826"
##                    "-1.747"  "0"     "2.73"     "1.563"
##                    "-1.748"  "0"     "3.6"      "2.06"
##                    "-1.748"  "11"    "18.98"    "4.566"
##                    "-1.754"  "7"     "13.08"    "3.466"
##                    "-1.755"  "6"     "11.98"    "3.408"
##                    "-1.758"  "5"     "9.95"     "2.815"
```

```
##                     "-1.76"   "1"      "5.23"      "2.403"
##                     "-1.761"  "8"      "14.03"     "3.424"
##                     "-1.762"  "0"      "2.57"      "1.458"
##                     "-1.764"  "3"      "8.02"      "2.846"
##                     "-1.768"  "20"     "30.33"     "5.843"
##                     "-1.769"  "0"      "3.14"      "1.775"
##                     "-1.786"  "1"      "4.03"      "1.696"
##                     "-1.79"   "2"      "7.09"      "2.843"
##                     "-1.794"  "1"      "4.51"      "1.957"
##                     "-1.794"  "5"      "11.31"     "3.518"
##                     "-1.813"  "110"    "128.92"    "10.437"
##                     "-1.819"  "0"      "3.24"      "1.782"
##                     "-1.82"   "50"     "63.65"     "7.499"
##                     "-1.822"  "28"     "40.08"     "6.63"
##                     "-1.823"  "1"      "4.5"       "1.92"
##                     "-1.842"  "2"      "6.26"      "2.312"
##                     "-1.847"  "136"    "159.11"    "12.514"
##                     "-1.849"  "1"      "4.82"      "2.066"
##                     "-1.861"  "0"      "3.21"      "1.725"
##                     "-1.862"  "6"      "12.22"     "3.341"
##                     "-1.863"  "9"      "17.49"     "4.558"
##                     "-1.865"  "1"      "5.21"      "2.258"
##                     "-1.865"  "1"      "5.8"       "2.574"
##                     "-1.871"  "1"      "5.82"      "2.576"
##                     "-1.874"  "0"      "3.4"       "1.815"
##                     "-1.877"  "12"     "18.99"     "3.724"
##                     "-1.88"   "0"      "3.5"       "1.861"
##                     "-1.88"   "2"      "6.38"      "2.33"
##                     "-1.882"  "0"      "3.23"      "1.717"
##                     "-1.884"  "3"      "9.54"      "3.471"
##                     "-1.887"  "2255"   "2339.72"   "44.895"
##                     "-1.887"  "1"      "5.21"      "2.231"
##                     "-1.904"  "0"      "4.01"      "2.106"
##                     "-1.907"  "5"      "11.98"     "3.66"
##                     "-1.909"  "1"      "6.15"      "2.698"
##                     "-1.91"   "0"      "3.39"      "1.775"
##                     "-1.916"  "2"      "8.26"      "3.268"
##                     "-1.917"  "0"      "3.64"      "1.899"
##                     "-1.919"  "4"      "9.82"      "3.033"
##                     "-1.921"  "0"      "3.01"      "1.567"
##                     "-1.921"  "0"      "3.01"      "1.567"
##                     "-1.921"  "0"      "3.01"      "1.567"
##                     "-1.921"  "0"      "3.01"      "1.567"
##                     "-1.927"  "38"     "53.27"     "7.926"
##                     "-1.93"   "1"      "5.76"      "2.466"
##                     "-1.936"  "56"     "71.75"     "8.136"
##                     "-1.938"  "1"      "5.77"      "2.461"
##                     "-1.944"  "0"      "3.09"      "1.59"
##                     "-1.953"  "2"      "6.64"      "2.376"
##                     "-1.964"  "4"      "9.21"      "2.653"
##                     "-1.965"  "0"      "2.94"      "1.496"
##                     "-1.975"  "0"      "3.32"      "1.681"
##                     "-1.976"  "11"     "18.99"     "4.044"
##                     "-1.978"  "0"      "3.57"      "1.805"
```

```
##                      "-1.98"   "1"     "6.29"     "2.672"
##                      "-1.982"  "23"    "33.88"    "5.491"
##                      "-1.984"  "15"    "23.43"    "4.248"
##                      "-1.99"   "0"     "3.61"     "1.814"
##                      "-1.99"   "0"     "3.61"     "1.814"
##                      "-1.993"  "1"     "4.8"      "1.907"
##                      "-1.995"  "26"    "36.09"    "5.057"
##                      "-1.995"  "6"     "14.15"    "4.086"
##                      "-1.997"  "0"     "3.66"     "1.832"
##                      "-1.998"  "16"    "24.34"    "4.174"
##                      "-2.004"  "1"     "5.09"     "2.04"
##                      "-2.008"  "0"     "3.83"     "1.907"
##                      "-2.014"  "3"     "8.19"     "2.577"
##                      "-2.03"   "0"     "4.28"     "2.109"
##                      "-2.032"  "0"     "3.53"     "1.738"
##                      "-2.037"  "75"    "95.07"    "9.854"
##                      "-2.038"  "27"    "39.43"    "6.099"
##                      "-2.038"  "60"    "79.61"    "9.62"
##                      "-2.039"  "30"    "42.83"    "6.291"
##                      "-2.048"  "37"    "52.99"    "7.806"
##                      "-2.049"  "0"     "4.03"     "1.967"
##                      "-2.054"  "57"    "75.49"    "9.002"
##                      "-2.057"  "2"     "5.97"     "1.93"
##                      "-2.058"  "43"    "58.67"    "7.615"
##                      "-2.059"  "175"   "205.75"   "14.933"
##                      "-2.066"  "7"     "14.85"    "3.799"
##                      "-2.067"  "29"    "40.9"     "5.757"
##                      "-2.071"  "4"     "10.41"    "3.095"
##                      "-2.077"  "0"     "4.54"     "2.185"
##                      "-2.079"  "5"     "13.29"    "3.988"
##                      "-2.082"  "0"     "3.81"     "1.83"
##                      "-2.083"  "374"   "415.67"   "20.002"
##                      "-2.084"  "0"     "4.06"     "1.948"
##                      "-2.095"  "2"     "7.99"     "2.859"
##                      "-2.098"  "0"     "4.38"     "2.088"
##                      "-2.098"  "6"     "13.58"    "3.613"
##                      "-2.103"  "6"     "14.82"    "4.193"
##                      "-2.104"  "2"     "7.11"     "2.428"
##                      "-2.108"  "11"    "20.44"    "4.477"
##                      "-2.11"   "8"     "15.16"    "3.393"
##                      "-2.113"  "1"     "7.45"     "3.053"
##                      "-2.115"  "0"     "4"        "1.891"
##                      "-2.115"  "240"   "280.19"   "19.002"
##                      "-2.117"  "5"     "11.71"    "3.17"
##                      "-2.119"  "122"   "148.9"    "12.693"
##                      "-2.124"  "0"     "4.9"      "2.307"
##                      "-2.126"  "0"     "3.11"     "1.463"
##                      "-2.127"  "3"     "9.35"     "2.986"
##                      "-2.128"  "11"    "20.04"    "4.247"
##                      "-2.133"  "0"     "4.81"     "2.255"
##                      "-2.142"  "0"     "4.51"     "2.106"
##                      "-2.142"  "0"     "4.51"     "2.106"
##                      "-2.146"  "1"     "5.65"     "2.167"
##                      "-2.147"  "5"     "12.02"    "3.269"
```

```
##                    "-2.148"  "161"   "192.59"   "14.705"
##                    "-2.148"  "4"     "11.04"    "3.278"
##                    "-2.158"  "0"     "4.05"     "1.877"
##                    "-2.162"  "0"     "4.11"     "1.901"
##                    "-2.162"  "0"     "4.11"     "1.901"
##                    "-2.166"  "0"     "5.74"     "2.65"
##                    "-2.174"  "0"     "4.46"     "2.052"
##                    "-2.178"  "7"     "16.09"    "4.173"
##                    "-2.181"  "0"     "4.24"     "1.944"
##                    "-2.181"  "0"     "4.24"     "1.944"
##                    "-2.188"  "4"     "10.13"    "2.802"
##                    "-2.19"   "6"     "14.29"    "3.785"
##                    "-2.19"   "3"     "8.89"     "2.689"
##                    "-2.193"  "0"     "4.86"     "2.216"
##                    "-2.197"  "0"     "5.11"     "2.326"
##                    "-2.199"  "0"     "4.98"     "2.265"
##                    "-2.202"  "0"     "5.16"     "2.343"
##                    "-2.204"  "20"    "31.74"    "5.327"
##                    "-2.206"  "2066"  "2185.39"  "54.112"
##                    "-2.212"  "1"     "6.38"     "2.432"
##                    "-2.215"  "1"     "4.95"     "1.783"
##                    "-2.217"  "117"   "141.09"   "10.867"
##                    "-2.218"  "11"    "20.55"    "4.305"
##                    "-2.221"  "1"     "6.26"     "2.368"
##                    "-2.223"  "4"     "10.54"    "2.942"
##                    "-2.232"  "0"     "4.47"     "2.002"
##                    "-2.232"  "55"    "75.37"    "9.127"
##                    "-2.236"  "1"     "6.93"     "2.652"
##                    "-2.244"  "3"     "9"        "2.674"
##                    "-2.247"  "0"     "3.97"     "1.766"
##                    "-2.249"  "616"   "664.29"   "21.468"
##                    "-2.249"  "10"    "18.93"    "3.97"
##                    "-2.25"   "0"     "3.64"     "1.618"
##                    "-2.251"  "3"     "9.98"     "3.101"
##                    "-2.253"  "0"     "4.27"     "1.896"
##                    "-2.256"  "9"     "18.66"    "4.281"
##                    "-2.256"  "0"     "5.53"     "2.451"
##                    "-2.267"  "58"    "78.26"    "8.937"
##                    "-2.269"  "1"     "7.7"      "2.952"
##                    "-2.271"  "0"     "4.39"     "1.933"
##                    "-2.273"  "25"    "37.46"    "5.482"
##                    "-2.28"   "106"   "133.07"   "11.873"
##                    "-2.287"  "35"    "50.31"    "6.695"
##                    "-2.287"  "19"    "31"       "5.247"
##                    "-2.297"  "1"     "5.91"     "2.137"
##                    "-2.298"  "0"     "3.31"     "1.44"
##                    "-2.304"  "0"     "4.21"     "1.827"
##                    "-2.304"  "5"     "11.59"    "2.861"
##                    "-2.306"  "0"     "6.29"     "2.728"
##                    "-2.31"   "3"     "10.64"    "3.308"
##                    "-2.312"  "8"     "16.84"    "3.824"
##                    "-2.318"  "0"     "5.27"     "2.273"
##                    "-2.319"  "0"     "5.81"     "2.505"
##                    "-2.323"  "578"   "640.35"   "26.842"
```

```
##                    "-2.327"  "1"    "6.68"    "2.441"
##                    "-2.332"  "6"    "14.34"   "3.577"
##                    "-2.334"  "9"    "19.14"   "4.344"
##                    "-2.336"  "2"    "8.46"    "2.765"
##                    "-2.337"  "4"    "12.05"   "3.445"
##                    "-2.341"  "7"    "17.35"   "4.421"
##                    "-2.347"  "0"    "5.82"    "2.48"
##                    "-2.351"  "918"  "982.36"  "27.372"
##                    "-2.352"  "7"    "16.37"   "3.984"
##                    "-2.363"  "34"   "52.55"   "7.849"
##                    "-2.37"   "0"    "4.56"    "1.924"
##                    "-2.377"  "3"    "10.99"   "3.362"
##                    "-2.388"  "3"    "10.64"   "3.199"
##                    "-2.393"  "0"    "5.56"    "2.324"
##                    "-2.395"  "4"    "12.45"   "3.529"
##                    "-2.396"  "1"    "6.76"    "2.404"
##                    "-2.406"  "1"    "7.04"    "2.51"
##                    "-2.407"  "4"    "11.53"   "3.128"
##                    "-2.416"  "3"    "10.06"   "2.923"
##                    "-2.416"  "0"    "4.13"    "1.709"
##                    "-2.424"  "1"    "6.44"    "2.244"
##                    "-2.427"  "1"    "7.81"    "2.806"
##                    "-2.435"  "0"    "5.43"    "2.23"
##                    "-2.44"   "3"    "11.22"   "3.368"
##                    "-2.451"  "0"    "4.81"    "1.963"
##                    "-2.452"  "23"   "38.34"   "6.256"
##                    "-2.458"  "12"   "21.07"   "3.691"
##                    "-2.459"  "7"    "16.31"   "3.786"
##                    "-2.46"   "0"    "4.06"    "1.65"
##                    "-2.463"  "0"    "7.13"    "2.894"
##                    "-2.481"  "0"    "5.78"    "2.329"
##                    "-2.481"  "6"    "16.2"    "4.112"
##                    "-2.482"  "75"   "99.11"   "9.715"
##                    "-2.483"  "1"    "7.08"    "2.448"
##                    "-2.495"  "2"    "9.68"    "3.078"
##                    "-2.5"    "0"    "6.25"    "2.5"
##                    "-2.502"  "38"   "56.15"   "7.255"
##                    "-2.503"  "0"    "5.54"    "2.213"
##                    "-2.506"  "0"    "5.27"    "2.103"
##                    "-2.507"  "70"   "98.63"   "11.421"
##                    "-2.509"  "3"    "11.05"   "3.208"
##                    "-2.523"  "38"   "57.61"   "7.773"
##                    "-2.523"  "10"   "19.85"   "3.904"
##                    "-2.525"  "0"    "5.46"    "2.162"
##                    "-2.536"  "53"   "72.47"   "7.678"
##                    "-2.539"  "5"    "14.84"   "3.876"
##                    "-2.542"  "49"   "68.02"   "7.482"
##                    "-2.558"  "6"    "15.84"   "3.847"
##                    "-2.561"  "3"    "12.33"   "3.643"
##                    "-2.563"  "3"    "11.5"    "3.317"
##                    "-2.564"  "62"   "83.85"   "8.521"
##                    "-2.564"  "1"    "8.02"    "2.738"
##                    "-2.565"  "2"    "9.99"    "3.116"
##                    "-2.566"  "6"    "15.45"   "3.683"
```

```
##                    "-2.57"    "0"     "4.7"      "1.829"
##                    "-2.571"   "1"     "8.87"     "3.061"
##                    "-2.576"   "0"     "7.06"     "2.741"
##                    "-2.587"   "1"     "7.59"     "2.547"
##                    "-2.595"   "4"     "13.53"    "3.672"
##                    "-2.605"   "2"     "10.85"    "3.397"
##                    "-2.614"   "18"    "32.82"    "5.67"
##                    "-2.62"    "0"     "7.29"     "2.783"
##                    "-2.621"   "1"     "10.21"    "3.514"
##                    "-2.628"   "3"     "13.27"    "3.908"
##                    "-2.629"   "5"     "15.01"    "3.807"
##                    "-2.629"   "30"    "48.8"     "7.151"
##                    "-2.643"   "107"   "140.32"   "12.608"
##                    "-2.647"   "1"     "10.47"    "3.577"
##                    "-2.651"   "10"    "21.31"    "4.266"
##                    "-2.659"   "15"    "28.67"    "5.141"
##                    "-2.662"   "16"    "28.31"    "4.625"
##                    "-2.686"   "1"     "8.58"     "2.822"
##                    "-2.693"   "1"     "10.48"    "3.52"
##                    "-2.701"   "16"    "31.91"    "5.891"
##                    "-2.702"   "4"     "12.27"    "3.061"
##                    "-2.704"   "3"     "12.65"    "3.569"
##                    "-2.71"    "5"     "13.76"    "3.232"
##                    "-2.717"   "6"     "15.67"    "3.559"
##                    "-2.722"   "126"   "161.05"   "12.874"
##                    "-2.722"   "3"     "13.13"    "3.722"
##                    "-2.729"   "73"    "97.79"    "9.084"
##                    "-2.729"   "0"     "5.91"     "2.165"
##                    "-2.731"   "0"     "5.87"     "2.149"
##                    "-2.742"   "9"     "20.63"    "4.242"
##                    "-2.743"   "10"    "23.2"     "4.812"
##                    "-2.751"   "4"     "17.06"    "4.748"
##                    "-2.776"   "26"    "43.87"    "6.436"
##                    "-2.778"   "33"    "52.63"    "7.066"
##                    "-2.78"    "0"     "8.23"     "2.961"
##                    "-2.785"   "54"    "76.97"    "8.248"
##                    "-2.785"   "0"     "7.82"     "2.808"
##                    "-2.79"    "7"     "18.24"    "4.028"
##                    "-2.792"   "6"     "15.82"    "3.517"
##                    "-2.809"   "2"     "8.65"     "2.367"
##                    "-2.812"   "13"    "24.57"    "4.115"
##                    "-2.819"   "81"    "112.18"   "11.061"
##                    "-2.826"   "2"     "10.93"    "3.16"
##                    "-2.835"   "0"     "7.16"     "2.526"
##                    "-2.842"   "3"     "13.53"    "3.705"
##                    "-2.853"   "113"   "148.19"   "12.336"
##                    "-2.856"   "2"     "13.61"    "4.065"
##                    "-2.86"    "1"     "8.3"      "2.552"
##                    "-2.862"   "0"     "6.62"     "2.313"
##                    "-2.864"   "33"    "53.42"    "7.131"
##                    "-2.865"   "1"     "11.72"    "3.742"
##                    "-2.866"   "5"     "16.31"    "3.946"
##                    "-2.867"   "1"     "10.34"    "3.257"
##                    "-2.868"   "16"    "33.81"    "6.21"
```

```
##                    "-2.877"  "1"    "8.7"      "2.676"
##                    "-2.885"  "15"   "31"       "5.547"
##                    "-2.885"  "40"   "60.1"     "6.968"
##                    "-2.888"  "8"    "25.23"    "5.966"
##                    "-2.893"  "1"    "8.17"     "2.478"
##                    "-2.906"  "3"    "12.9"     "3.407"
##                    "-2.907"  "8"    "21.03"    "4.482"
##                    "-2.91"   "878"  "989.58"   "38.338"
##                    "-2.932"  "3"    "16.13"    "4.478"
##                    "-2.934"  "3"    "12.29"    "3.166"
##                    "-2.934"  "54"   "84.33"    "10.339"
##                    "-2.94"   "1"    "9.23"     "2.799"
##                    "-2.94"   "0"    "6.04"     "2.054"
##                    "-2.94"   "7"    "20.88"    "4.721"
##                    "-2.943"  "1"    "10.09"    "3.088"
##                    "-2.946"  "5"    "16.39"    "3.866"
##                    "-2.948"  "0"    "8.39"     "2.846"
##                    "-2.952"  "16"   "32.34"    "5.535"
##                    "-2.957"  "19"   "35.17"    "5.468"
##                    "-2.982"  "5"    "16.89"    "3.987"
##                    "-2.982"  "6"    "16.4"     "3.487"
##                    "-2.99"   "2"    "12.28"    "3.438"
##                    "-2.994"  "59"   "83.41"    "8.153"
##                    "-3.007"  "16"   "31.91"    "5.292"
##                    "-3.007"  "5"    "17.22"    "4.064"
##                    "-3.014"  "44"   "66.06"    "7.319"
##                    "-3.02"   "113"  "147.43"   "11.4"
##                    "-3.02"   "185"  "231.09"   "15.261"
##                    "-3.022"  "3"    "16.85"    "4.582"
##                    "-3.022"  "0"    "9.04"     "2.991"
##                    "-3.025"  "17"   "33.94"    "5.599"
##                    "-3.027"  "0"    "8.18"     "2.702"
##                    "-3.028"  "411"  "480.53"   "22.966"
##                    "-3.028"  "1"    "13.75"    "4.21"
##                    "-3.037"  "13"   "31.72"    "6.165"
##                    "-3.039"  "2"    "11.67"    "3.182"
##                    "-3.043"  "199"  "238.98"   "13.136"
##                    "-3.045"  "88"   "123.25"   "11.575"
##                    "-3.049"  "3"    "14.59"    "3.801"
##                    "-3.053"  "2"    "11.53"    "3.122"
##                    "-3.056"  "10"   "27.22"    "5.635"
##                    "-3.057"  "3"    "14.75"    "3.844"
##                    "-3.067"  "38"   "58.82"    "6.789"
##                    "-3.067"  "11"   "27.28"    "5.309"
##                    "-3.068"  "89"   "124.27"   "11.494"
##                    "-3.074"  "35"   "57.48"    "7.312"
##                    "-3.076"  "7"    "20.64"    "4.435"
##                    "-3.1"    "9"    "24.5"     "5"
##                    "-3.108"  "1"    "15.1"     "4.536"
##                    "-3.116"  "3"    "14.86"    "3.806"
##                    "-3.118"  "123"  "161.89"   "12.475"
##                    "-3.123"  "2"    "15.64"    "4.368"
##                    "-3.129"  "6"    "19.58"    "4.34"
##                    "-3.15"   "46"   "70.75"    "7.858"
```

```
##                      "-3.155"  "11"    "26.52"   "4.918"
##                      "-3.17"   "222"   "273.96"  "16.389"
##                      "-3.176"  "0"     "8.99"    "2.83"
##                      "-3.176"  "93"    "131.4"   "12.091"
##                      "-3.177"  "1"     "13.81"   "4.032"
##                      "-3.18"   "23"    "44.97"   "6.908"
##                      "-3.196"  "29"    "49.4"    "6.383"
##                      "-3.197"  "2"     "12.09"   "3.156"
##                      "-3.2"    "11"    "26.56"   "4.862"
##                      "-3.205"  "19"    "42.61"   "7.368"
##                      "-3.21"   "131"   "170.81"  "12.401"
##                      "-3.211"  "4"     "14.02"   "3.12"
##                      "-3.227"  "4"     "16.58"   "3.898"
##                      "-3.243"  "7"     "19.02"   "3.706"
##                      "-3.258"  "2"     "13.71"   "3.594"
##                      "-3.26"   "11"    "24.01"   "3.991"
##                      "-3.26"   "4"     "14.55"   "3.236"
##                      "-3.264"  "29"    "54.31"   "7.755"
##                      "-3.265"  "121"   "162.92"  "12.838"
##                      "-3.269"  "9"     "22.26"   "4.057"
##                      "-3.278"  "10"    "25.58"   "4.753"
##                      "-3.282"  "215"   "264.42"  "15.058"
##                      "-3.3"    "8"     "23.43"   "4.676"
##                      "-3.318"  "1"     "9.78"    "2.646"
##                      "-3.323"  "51"    "78.91"   "8.399"
##                      "-3.325"  "15"    "33.3"    "5.504"
##                      "-3.341"  "1"     "14.29"   "3.978"
##                      "-3.345"  "4"     "16.18"   "3.641"
##                      "-3.347"  "3"     "14.73"   "3.504"
##                      "-3.351"  "4"     "18.45"   "4.312"
##                      "-3.353"  "0"     "11.12"   "3.316"
##                      "-3.36"   "3"     "16.34"   "3.97"
##                      "-3.366"  "10"    "25"      "4.456"
##                      "-3.388"  "7"     "21.6"    "4.309"
##                      "-3.394"  "10"    "26.69"   "4.917"
##                      "-3.397"  "137"   "186.32"  "14.52"
##                      "-3.408"  "121"   "166.81"  "13.442"
##                      "-3.417"  "49"    "81.63"   "9.549"
##                      "-3.419"  "0"     "9.62"    "2.813"
##                      "-3.419"  "2"     "16.45"   "4.227"
##                      "-3.433"  "23"    "44.95"   "6.393"
##                      "-3.434"  "16"    "35.15"   "5.577"
##                      "-3.437"  "21"    "40.92"   "5.796"
##                      "-3.455"  "8"     "25.19"   "4.976"
##                      "-3.467"  "4"     "15.85"   "3.418"
##                      "-3.491"  "4"     "19.39"   "4.408"
##                      "-3.495"  "43"    "73.36"   "8.687"
##                      "-3.497"  "7"     "20.21"   "3.777"
##                      "-3.499"  "11"    "31.59"   "5.885"
##                      "-3.502"  "6"     "20.36"   "4.101"
##                      "-3.512"  "11"    "28.01"   "4.844"
##                      "-3.541"  "14"    "36.72"   "6.417"
##                      "-3.543"  "29"    "52.14"   "6.532"
##                      "-3.544"  "45"    "71.8"    "7.563"
```

```
##                      "-3.546"  "1"    "11.78"    "3.04"
##                      "-3.554"  "68"   "98.11"    "8.472"
##                      "-3.558"  "61"   "93.73"    "9.2"
##                      "-3.559"  "8"    "25.93"    "5.038"
##                      "-3.559"  "6"    "21.73"    "4.42"
##                      "-3.56"   "2"    "15.88"    "3.898"
##                      "-3.563"  "174"  "225.83"   "14.547"
##                      "-3.59"   "23"   "46.07"    "6.426"
##                      "-3.597"  "8"    "26.26"    "5.076"
##                      "-3.605"  "4"    "18.33"    "3.975"
##                      "-3.607"  "1"    "14.93"    "3.862"
##                      "-3.618"  "90"   "132.61"   "11.777"
##                      "-3.631"  "10"   "32.5"     "6.196"
##                      "-3.637"  "11"   "29.05"    "4.963"
##                      "-3.655"  "30"   "56.67"    "7.298"
##                      "-3.687"  "15"   "34.52"    "5.294"
##                      "-3.691"  "0"    "13.91"    "3.769"
##                      "-3.693"  "133"  "183.74"   "13.741"
##                      "-3.698"  "9"    "27.64"    "5.04"
##                      "-3.716"  "157"  "206.48"   "13.316"
##                      "-3.722"  "8"    "26.28"    "4.911"
##                      "-3.726"  "67"   "103.22"   "9.721"
##                      "-3.729"  "0"    "11.07"    "2.969"
##                      "-3.73"   "3"    "18.75"    "4.222"
##                      "-3.743"  "6"    "24.54"    "4.953"
##                      "-3.754"  "200"  "257.81"   "15.401"
##                      "-3.758"  "67"   "107.93"   "10.891"
##                      "-3.769"  "142"  "189.25"   "12.536"
##                      "-3.771"  "5"    "26.44"    "5.686"
##                      "-3.773"  "2"    "15.52"    "3.583"
##                      "-3.787"  "187"  "238.42"   "13.577"
##                      "-3.789"  "334"  "409.39"   "19.896"
##                      "-3.8"    "8"    "27.53"    "5.139"
##                      "-3.823"  "48"   "79.1"     "8.135"
##                      "-3.825"  "12"   "30.52"    "4.842"
##                      "-3.833"  "153"  "208.09"   "14.374"
##                      "-3.837"  "19"   "41.63"    "5.898"
##                      "-3.841"  "6"    "21.63"    "4.069"
##                      "-3.885"  "35"   "64.03"    "7.473"
##                      "-3.942"  "10"   "28.16"    "4.607"
##                      "-3.958"  "1"    "20.2"     "4.851"
##                      "-3.966"  "28"   "55.84"    "7.019"
##                      "-3.979"  "196"  "260.59"   "16.233"
##                      "-3.984"  "4"    "18.55"    "3.653"
##                      "-3.986"  "48"   "83.48"    "8.901"
##                      "-3.99"   "53"   "83.48"    "7.639"
##                      "-3.991"  "0"    "14.76"    "3.699"
##                      "-3.995"  "12"   "32.5"     "5.132"
##                      "-4.004"  "4"    "23.71"    "4.922"
##                      "-4.023"  "0"    "11"       "2.734"
##                      "-4.031"  "5"    "21.34"    "4.053"
##                      "-4.041"  "0"    "13.89"    "3.437"
##                      "-4.044"  "21"   "44.75"    "5.873"
##                      "-4.061"  "7"    "25.85"    "4.641"
```

```
##                      "-4.064"   "0"     "12.59"     "3.098"
##                      "-4.065"   "35"    "65.4"      "7.478"
##                      "-4.07"    "7"     "25.79"     "4.617"
##                      "-4.093"   "59"    "95.2"      "8.844"
##                      "-4.094"   "2"     "17.74"     "3.845"
##                      "-4.139"   "40"    "71.07"     "7.507"
##                      "-4.147"   "380"   "461.48"    "19.646"
##                      "-4.199"   "5"     "27.14"     "5.272"
##                      "-4.22"    "4"     "21.11"     "4.055"
##                      "-4.224"   "4"     "21.86"     "4.228"
##                      "-4.226"   "12"    "36.64"     "5.83"
##                      "-4.236"   "6"     "28"        "5.193"
##                      "-4.261"   "8"     "28.54"     "4.821"
##                      "-4.268"   "5"     "24.15"     "4.487"
##                      "-4.276"   "89"    "134.57"    "10.658"
##                      "-4.277"   "2"     "16.88"     "3.479"
##                      "-4.278"   "89"    "135.29"    "10.82"
##                      "-4.29"    "69"    "115.78"    "10.905"
##                      "-4.295"   "12"    "37.55"     "5.948"
##                      "-4.296"   "22"    "52.1"      "7.007"
##                      "-4.325"   "551"   "660.76"    "25.376"
##                      "-4.326"   "77"    "122.47"    "10.512"
##                      "-4.365"   "0"     "14.89"     "3.411"
##                      "-4.393"   "8"     "33.08"     "5.71"
##                      "-4.402"   "20"    "51.68"     "7.197"
##                      "-4.413"   "7"     "25.69"     "4.235"
##                      "-4.422"   "33"    "68.84"     "8.105"
##                      "-4.432"   "37"    "69.1"      "7.243"
##                      "-4.444"   "106"   "153.98"    "10.796"
##                      "-4.449"   "26"    "60.09"     "7.662"
##                      "-4.47"    "1"     "16.29"     "3.421"
##                      "-4.499"   "10"    "33.3"      "5.179"
##                      "-4.536"   "120"   "170.32"    "11.095"
##                      "-4.539"   "8"     "30.68"     "4.997"
##                      "-4.546"   "428"   "537.14"    "24.009"
##                      "-4.549"   "39"    "76.71"     "8.291"
##                      "-4.557"   "3"     "27.18"     "5.306"
##                      "-4.557"   "69"    "110.33"    "9.069"
##                      "-4.582"   "1494"  "1688.71"   "42.497"
##                      "-4.583"   "47"    "85.76"     "8.458"
##                      "-4.584"   "8"     "28.44"     "4.459"
##                      "-4.589"   "19"    "48.13"     "6.348"
##                      "-4.592"   "4"     "27.23"     "5.059"
##                      "-4.642"   "7"     "29.8"      "4.911"
##                      "-4.657"   "340"   "434.99"    "20.399"
##                      "-4.738"   "59"    "108.96"    "10.545"
##                      "-4.748"   "4"     "27.6"      "4.971"
##                      "-4.754"   "2"     "28.11"     "5.492"
##                      "-4.797"   "25"    "60.02"     "7.3"
##                      "-4.798"   "29"    "71.46"     "8.849"
##                      "-4.862"   "13"    "43.78"     "6.33"
##                      "-4.874"   "4"     "28.37"     "5"
##                      "-4.875"   "47"    "90.74"     "8.973"
##                      "-4.901"   "937"   "1103.68"   "34.013"
```

```
##                     "-4.91"    "1"     "19.15"    "3.697"
##                     "-4.931"   "34"    "83.05"    "9.948"
##                     "-4.954"   "5"     "32.78"    "5.608"
##                     "-4.958"   "12"    "48.74"    "7.41"
##                     "-4.967"   "14"    "47.13"    "6.671"
##                     "-4.984"   "6"     "35.2"     "5.859"
##                     "-4.985"   "9"     "34"       "5.015"
##                     "-5.005"   "33"    "71.23"    "7.638"
##                     "-5.025"   "32"    "71.66"    "7.892"
##                     "-5.037"   "8"     "34.91"    "5.343"
##                     "-5.101"   "0"     "25.69"    "5.037"
##                     "-5.122"   "303"   "402.94"   "19.511"
##                     "-5.125"   "3"     "33.19"    "5.891"
##                     "-5.157"   "6"     "36.25"    "5.866"
##                     "-5.201"   "113"   "182.39"   "13.342"
##                     "-5.24"    "3"     "31.03"    "5.349"
##                     "-5.264"   "14"    "44.34"    "5.763"
##                     "-5.278"   "33"    "72.62"    "7.507"
##                     "-5.287"   "29"    "74.03"    "8.517"
##                     "-5.353"   "9"     "38.2"     "5.455"
##                     "-5.353"   "9"     "42.91"    "6.334"
##                     "-5.386"   "751"   "921.03"   "31.569"
##                     "-5.459"   "4"     "34.95"    "5.67"
##                     "-5.509"   "118"   "189.82"   "13.037"
##                     "-5.516"   "460"   "585.14"   "22.688"
##                     "-5.533"   "6"     "36.94"    "5.592"
##                     "-5.549"   "39"    "89.71"    "9.138"
##                     "-5.559"   "9"     "40.35"    "5.64"
##                     "-5.59"    "80"    "142.37"   "11.158"
##                     "-5.666"   "125"   "216.47"   "16.143"
##                     "-5.689"   "55"    "108.34"   "9.376"
##                     "-5.696"   "25"    "69.65"    "7.838"
##                     "-5.739"   "114"   "188.43"   "12.969"
##                     "-5.748"   "242"   "358.32"   "20.237"
##                     "-5.773"   "32"    "85.15"    "9.207"
##                     "-5.822"   "6"     "36.93"    "5.313"
##                     "-5.851"   "55"    "116.88"   "10.577"
##                     "-5.851"   "248"   "350.56"   "17.528"
##                     "-5.892"   "41"    "98.94"    "9.834"
##                     "-6.012"   "279"   "396.91"   "19.612"
##                     "-6.044"   "41"    "101.02"   "9.93"
##                     "-6.051"   "101"   "172.2"    "11.766"
##                     "-6.167"   "25"    "69.49"    "7.215"
##                     "-6.168"   "796"   "974.52"   "28.941"
##                     "-6.173"   "31"    "90.13"    "9.579"
##                     "-6.201"   "194"   "303.5"    "17.658"
##                     "-6.241"   "14"    "56.5"     "6.81"
##                     "-6.277"   "7"     "50.95"    "7.001"
##                     "-6.292"   "206"   "309.08"   "16.382"
##                     "-6.315"   "115"   "210.91"   "15.188"
##                     "-6.325"   "25"    "78.53"    "8.463"
##                     "-6.375"   "53"    "120.2"    "10.541"
##                     "-6.418"   "57"    "126.08"   "10.763"
##                     "-6.536"   "849"   "1055.1"   "31.531"
```

```
##                    "-6.542" "243"   "367.76"   "19.071"
##                    "-6.546" "18"    "67.61"    "7.578"
##                    "-6.571" "6"     "51.68"    "6.951"
##                    "-6.654" "81"    "167.76"   "13.039"
##                    "-6.698" "76"    "152.83"   "11.471"
##                    "-6.714" "108"   "199.52"   "13.632"
##                    "-6.762" "187"   "301.51"   "16.934"
##                    "-6.778" "18"    "76.19"    "8.586"
##                    "-6.832" "25"    "79.98"    "8.048"
##                    "-6.838" "299"   "442.4"    "20.971"
##                    "-6.858" "4"     "40.78"    "5.363"
##                    "-6.906" "98"    "192.01"   "13.613"
##                    "-6.921" "41"    "99.57"    "8.463"
##                    "-7.042" "11"    "53.78"    "6.075"
##                    "-7.053" "44"    "133.11"   "12.634"
##                    "-7.058" "415"   "586.09"   "24.24"
##                    "-7.07"  "32"    "99.11"    "9.492"
##                    "-7.181" "656"   "867.43"   "29.442"
##                    "-7.201" "9"     "52.05"    "5.979"
##                    "-7.236" "416"   "607.61"   "26.48"
##                    "-7.319" "27"    "95.47"    "9.355"
##                    "-7.355" "10"    "68.64"    "7.973"
##                    "-7.373" "356"   "509.68"   "20.845"
##                    "-7.446" "25"    "86.78"    "8.297"
##                    "-7.45"  "37"    "104.63"   "9.077"
##                    "-7.456" "205"   "342.59"   "18.453"
##                    "-7.494" "11"    "61.44"    "6.73"
##                    "-7.604" "16"    "94.36"    "10.305"
##                    "-7.658" "63"    "151.47"   "11.553"
##                    "-7.72"  "22"    "98.51"    "9.911"
##                    "-7.965" "170"   "330.06"   "20.096"
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##                    "-8.089" "29"    "109.28"   "9.924"
##                    "-8.175" "70"    "165.42"   "11.672"
##                    "-8.213" "20"    "89.92"    "8.513"
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##                    "-9.512" "242"   "397.9"    "16.39"
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##                    "-9.923" "106"   "282.53"   "17.79"
##                    "-9.931" "57"    "178.65"   "12.249"
##                    "-9.974" "333"   "575.67"   "24.329"
##                    "-10.133" "160"   "362.04"   "19.939"
##                    "-10.148" "146"   "308.34"   "15.998"
##                    "-10.226" "449"   "733.17"   "27.788"
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##                    "-10.689" "71"    "206.4"    "12.667"
##                    "-11.599" "165"   "386.03"   "19.055"
##                    "-12.849" "772"   "1230.34"  "35.672"
##                    "-13.056" "1045"  "1523.25"  "36.632"
##                    "-13.568" "215"   "491.62"   "20.388"
##                    "-13.621" "11061" "12657.17" "117.187"
```

```
##                     "-13.892" "1963" "2647.39" "49.266"
##                     "-16.308" "192"  "555.32"  "22.278"
##                     "-18.169" "7640" "9631.53" "109.614"
##                     "-18.829" "4373" "5657.76" "68.232"
##                     "-19.592" "677"  "1401.18" "36.963"
write.table(cc.enriched.terms, file="output/genes.cc.txt", sep="\t", row.names = F, col.names = F, quot

mf.enriched.terms <- c("GO.ID", "GO.Term", "zscore", "obs", "mean", "std")
for (i in 1:length(mf.enrich.list)) {
  id <- as.character(mf.enrich.list[i])
  term <- Term(GOID(id))
  z.gene <- z.mf[i]
  mf.enriched.terms <- rbind(mf.enriched.terms, c(id, term, z.gene, mf.obs[i], mf.mean[i], mf.std[i]))
}
mf.enriched.terms
```

```
##
## mf.enriched.terms "GO.ID"
##                   "GO:0008137"
##                   "GO:0003954"
##                   "GO:0004129"
##                   "GO:0004466"
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##                    "NADH dehydrogenase activity"
##                    "cytochrome-c oxidase activity"
##                    "long-chain-acyl-CoA dehydrogenase activity"
##                    "electron transfer activity"
##                    "ubiquinol-cytochrome-c reductase activity"
##                    "2 iron, 2 sulfur cluster binding"
##                    "ubiquinone binding"
```

```
##                     "proton-transporting ATPase activity, rotational mechanism"
##                     "fructose-bisphosphate aldolase activity"
##                     "proton-exporting ATPase activity, phosphorylative mechanism"
##                     "very-long-chain-acyl-CoA dehydrogenase activity"
##                     "electron transporter, transferring electrons from CoQH2-cytochrome c reductase co
##                     "fructose-1-phosphate aldolase activity"
##                     "4 iron, 4 sulfur cluster binding"
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##                     "ATPase coupled ion transmembrane transporter activity"
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##                     "flavin adenine dinucleotide binding"
##                     "cholate 7-alpha-dehydrogenase activity"
##                     "testosterone dehydrogenase [NAD(P)] activity"
##                     "3-hydroxy-2-methylbutyryl-CoA dehydrogenase activity"
##                     "ATP:ADP antiporter activity"
##                     "electron transporter, transferring electrons within CoQH2-cytochrome c reductase
##                     "protein transmembrane transporter activity"
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##                     "GTP binding"
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##                     "pyruvate dehydrogenase (NAD+) activity"
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##                     "hydrolase activity"
##                     "oxoglutarate dehydrogenase (succinyl-transferring) activity"
##                     "aldehyde dehydrogenase (NAD) activity"
##                     "voltage-gated anion channel activity"
##                     "structural constituent of cytoskeleton"
##                     "translation elongation factor activity"
##                     "P-P-bond-hydrolysis-driven protein transmembrane transporter activity"
##                     "pyruvate dehydrogenase (acetyl-transferring) kinase activity"
##                     "oxidoreductase activity, acting on NAD(P)H, quinone or similar compound as accept
```

```
##                 "AMP binding"
##                 "glycogen phosphorylase activity"
##                 "linear malto-oligosaccharide phosphorylase activity"
##                 "SHG alpha-glucan phosphorylase activity"
##                 "phosphoglycerate mutase activity"
##                 "thiamine pyrophosphate binding"
##                 "oxidoreductase activity, acting on NAD(P)H"
##                 "chaperone binding"
##                 "estradiol 17-beta-dehydrogenase activity"
##                 "thioredoxin peroxidase activity"
##                 "3 iron, 4 sulfur cluster binding"
##                 "retinal dehydrogenase activity"
##                 "cuprous ion binding"
##                 "ATPase activity"
##                 "3-hydroxyacyl-CoA dehydrogenase activity"
##                 "coenzyme binding"
##                 "monosaccharide binding"
##                 "ATP binding"
##                 "succinate-CoA ligase (ADP-forming) activity"
##                 "succinate-CoA ligase (GDP-forming) activity"
##                 "glutathione disulfide oxidoreductase activity"
##                 "NAD-dependent protein deacetylase activity"
##                 "magnesium ion binding"
##                 "17-beta-ketosteroid reductase activity"
##                 "17-beta-hydroxysteroid dehydrogenase (NADP+) activity"
##                 "dihydrolipoyl dehydrogenase activity"
##                 "lipoamide binding"
##                 "heat shock protein binding"
##                 "L-lactate dehydrogenase activity"
##                 "nucleoside diphosphate kinase activity"
##                 "ferrous iron binding"
##                 "methyltransferase activity"
##                 "fatty acid binding"
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##                 "copper ion binding"
##                 "FMN binding"
##                 "glycerol-3-phosphate dehydrogenase (quinone) activity"
##                 "pyruvate dehydrogenase (acetyl-transferring) activity"
##                 "calcium-transporting ATPase activity"
##                 "phosphomannomutase activity"
##                 "protein-arginine omega-N symmetric methyltransferase activity"
##                 "serine-tRNA ligase activity"
##                 "ATPase activity, coupled"
##                 "L-serine ammonia-lyase activity"
##                 "glutamine-fructose-6-phosphate transaminase (isomerizing) activity"
##                 "carbohydrate derivative binding"
##                 "NAD+ binding"
##                 "enzyme regulator activity"
##                 "GDP binding"
##                 "isocitrate dehydrogenase (NAD+) activity"
##                 "mitochondrion targeting sequence binding"
##                 "protein binding involved in protein folding"
##                 "beta-tubulin binding"
##                 "superoxide dismutase activity"
```

```
##                     "cysteine-type endopeptidase inhibitor activity involved in apoptotic process"
##                     "selenocysteine-tRNA ligase activity"
##                     "phosphopyruvate hydratase activity"
##                     "CTP synthase activity"
##                     "ATPase activity, uncoupled"
##                     "hydro-lyase activity"
##                     "tRNA binding"
##                     "FFAT motif binding"
##                     "L-threonine ammonia-lyase activity"
##                     "misfolded protein binding"
##                     "NEDD8 ligase activity"
##                     "D-glucose transmembrane transporter activity"
##                     "ribonucleoside-diphosphate reductase activity, thioredoxin disulfide as acceptor"
##                     "methionine adenosyltransferase activity"
##                     "NADP binding"
##                     "amino acid:sodium symporter activity"
##                     "decanoate-CoA ligase activity"
##                     "glucokinase activity"
##                     "fructokinase activity"
##                     "mannokinase activity"
##                     "oxoglutarate dehydrogenase (NAD+) activity"
##                     "glucose binding"
##                     "aldehyde dehydrogenase [NAD(P)+] activity"
##                     "oxygen-dependent protoporphyrinogen oxidase activity"
##                     "molecular_function"
##                     "ornithine-oxo-acid transaminase activity"
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##                     "transporter activity"
##                     "C3HC4-type RING finger domain binding"
##                     "nucleotide binding"
##                     "phosphoglucomutase activity"
##                     "inorganic cation transmembrane transporter activity"
##                     "hydroxymethylglutaryl-CoA synthase activity"
##                     "isocitrate dehydrogenase (NADP+) activity"
##                     "UTP:glucose-1-phosphate uridylyltransferase activity"
##                     "pyrimidine ribonucleotide binding"
##                     "glycerol-3-phosphate dehydrogenase [NAD+] activity"
##                     "very-long-chain-(S)-2-hydroxy-acid oxidase activity"
##                     "long-chain-(S)-2-hydroxy-long-chain-acid oxidase activity"
##                     "medium-chain-(S)-2-hydroxy-acid oxidase activity"
##                     "alkyl hydroperoxide reductase activity"
##                     "aconitate hydratase activity"
##                     "aminoacyl-tRNA editing activity"
##                     "pyruvate carboxylase activity"
##                     "pyruvate dehydrogenase activity"
##                     "inorganic diphosphatase activity"
##                     "threonine-tRNA ligase activity"
##                     "beta2-adrenergic receptor activity"
##                     "amino acid binding"
##                     "long-chain fatty acid-CoA ligase activity"
##                     "dihydrolipoyllysine-residue acetyltransferase activity"
##                     "biotin binding"
##                     "fructose-6-phosphate binding"
##                     "6-phosphofructokinase activity"
```

```
##                     "Rab GDP-dissociation inhibitor activity"
##                     "S-adenosyl-L-methionine binding"
##                     "glycerol-3-phosphate dehydrogenase [NAD(P)+] activity"
##                     "alcohol dehydrogenase [NAD(P)+] activity"
##                     "GTPase activator activity"
##                     "potassium ion leak channel activity"
##                     "alcohol dehydrogenase (NADP+) activity"
##                     "argininosuccinate lyase activity"
##                     "glyceraldehyde-3-phosphate dehydrogenase (NAD+) (non-phosphorylating) activity"
##                     "cofactor binding"
##                     "mitochondrial ribosome binding"
##                     "apolipoprotein A-I binding"
##                     "arsenate reductase (glutaredoxin) activity"
##                     "cysteine desulfurase activity"
##                     "GTP cyclohydrolase I activity"
##                     "glucose transmembrane transporter activity"
##                     "alditol:NADP+ 1-oxidoreductase activity"
##                     "dolichyl-phosphate beta-D-mannosyltransferase activity"
##                     "glucose-6-phosphate isomerase activity"
##                     "intramolecular transferase activity"
##                     "1-acylglycerol-3-phosphate O-acyltransferase activity"
##                     "(S)-2-hydroxy-acid oxidase activity"
##                     "IMP dehydrogenase activity"
##                     "fatty-acyl-CoA synthase activity"
##                     "fatty acid ligase activity"
##                     "butyrate-CoA ligase activity"
##                     "acyl-CoA ligase activity"
##                     "glutathione transferase activity"
##                     "acetate-CoA ligase activity"
##                     "N-acetylgalactosamine kinase activity"
##                     "Hsp70 protein binding"
##                     "3-dehydrosphinganine reductase activity"
##                     "complement component C3a binding"
##                     "ornithine carbamoyltransferase activity"
##                     "ATP-dependent peptidase activity"
##                     "succinate-hydroxymethylglutarate CoA-transferase activity"
##                     "dolichyl-phosphate-mannose-protein mannosyltransferase activity"
##                     "ATPase binding"
##                     "large conductance calcium-activated potassium channel activity"
##                     "phospholipase D activator activity"
##                     "galactokinase activity"
##                     "deoxyribonuclease activity"
##                     "carbonyl reductase (NADPH) activity"
##                     "single guanine insertion binding"
##                     "ATPase activator activity"
##                     "L-amino acid transmembrane transporter activity"
##                     "adenine binding"
##                     "adenine phosphoribosyltransferase activity"
##                     "glutamate dehydrogenase (NAD+) activity"
##                     "glutamate dehydrogenase [NAD(P)+] activity"
##                     "metalloendopeptidase activity"
##                     "thyrotropin-releasing hormone receptor binding"
##                     "MHC class I protein binding"
##                     "UDP-glucose:hexose-1-phosphate uridylyltransferase activity"
```

```
##                    "benzaldehyde dehydrogenase (NAD+) activity"
##                    "4-hydroxybenzoate decaprenyltransferase activity"
##                    "transferase activity, transferring alkyl or aryl (other than methyl) groups"
##                    "4-hydroxybenzoate nonaprenyltransferase activity"
##                    "nitrite reductase (NO-forming) activity"
##                    "carbon monoxide binding"
##                    "retromer complex binding"
##                    "manganese-transporting ATPase activity"
##                    "phosphatidylserine decarboxylase activity"
##                    "superoxide dismutase copper chaperone activity"
##                    "clathrin light chain binding"
##                    "translation initiation factor activity"
##                    "citrate (Si)-synthase activity"
##                    "cystathionine beta-synthase activity"
##                    "cysteine synthase activity"
##                    "vitamin binding"
##                    "dihydrolipoyllysine-residue succinyltransferase activity"
##                    "inositol-3-phosphate synthase activity"
##                    "selenomethionine adenosyltransferase activity"
##                    "adenyl nucleotide binding"
##                    "NADP-retinol dehydrogenase activity"
##                    "ferrochelatase activity"
##                    "oxidoreductase activity, acting on NAD(P)H, heme protein as acceptor"
##                    "L-aspartate:2-oxoglutarate aminotransferase activity"
##                    "acidic amino acid transmembrane transporter activity"
##                    "calcium-activated potassium channel activity"
##                    "cardiolipin binding"
##                    "cytosolic dipeptidase activity"
##                    "alanylglutamate dipeptidase activity"
##                    "modified amino acid binding"
##                    "cytoskeletal protein binding"
##                    "fumarate hydratase activity"
##                    "phosphogluconate dehydrogenase (decarboxylating) activity"
##                    "malate dehydrogenase (NADP+) activity"
##                    "kynurenine-oxoglutarate transaminase activity"
##                    "translation factor activity, RNA binding"
##                    "leucine-tRNA ligase activity"
##                    "bile acid binding"
##                    "glutathione oxidoreductase activity"
##                    "ionotropic glutamate receptor binding"
##                    "cAMP-dependent protein kinase inhibitor activity"
##                    "choline-phosphate cytidylyltransferase activity"
##                    "(R)-2-hydroxyglutarate dehydrogenase activity"
##                    "complement component C3b binding"
##                    "single thymine insertion binding"
##                    "nitric oxide binding"
##                    "spermidine synthase activity"
##                    "phosphate:proton symporter activity"
##                    "preprotein binding"
##                    "arachidonate-CoA ligase activity"
##                    "lipoic acid binding"
##                    "dihydrolipoyllysine-residue (2-methylpropanoyl)transferase activity"
##                    "cyclosporin A binding"
##                    "protein serine/threonine phosphatase activity"
```

```
##                    "galactose binding"
##                    "phosphoribosylamine-glycine ligase activity"
##                    "phosphoribosylformylglycinamidine cyclo-ligase activity"
##                    "phosphoribosylglycinamide formyltransferase activity"
##                    "carboxylic acid binding"
##                    "glycolipid binding"
##                    "3',5'-cyclic-GMP phosphodiesterase activity"
##                    "calcium-dependent protein kinase activity"
##                    "L-malate dehydrogenase activity"
##                    "cAMP binding"
##                    "ribosome binding"
##                    "peptidyl-prolyl cis-trans isomerase activity"
##                    "purine nucleobase binding"
##                    "protein homodimerization activity"
##                    "P2Y1 nucleotide receptor binding"
##                    "cyclic nucleotide binding"
##                    "dinucleotide repeat insertion binding"
##                    "inorganic phosphate transmembrane transporter activity"
##                    "mannose-1-phosphate guanylyltransferase activity"
##                    "dipeptidase activity"
##                    "ubiquitin protein ligase binding"
##                    "branched-chain-amino-acid transaminase activity"
##                    "L-leucine transaminase activity"
##                    "L-valine transaminase activity"
##                    "L-isoleucine transaminase activity"
##                    "biotin carboxylase activity"
##                    "transketolase activity"
##                    "profilin binding"
##                    "adenosylhomocysteinase activity"
##                    "high-density lipoprotein particle binding"
##                    "hexokinase activity"
##                    "TBP-class protein binding"
##                    "beta-1 adrenergic receptor binding"
##                    "ADP binding"
##                    "ryanodine-sensitive calcium-release channel activity"
##                    "guanine/thymine mispair binding"
##                    "NEDD8-specific protease activity"
##                    "transferase activity, transferring pentosyl groups"
##                    "metallopeptidase activity"
##                    "N(6)-L-threonylcarbamoyladenine synthase activity"
##                    "macrolide binding"
##                    "aspartic-type endopeptidase inhibitor activity"
##                    "peptidyl-cysteine S-nitrosylase activity"
##                    "GDP-dissociation inhibitor activity"
##                    "protein tyrosine/serine/threonine phosphatase activity"
##                    "glycerophosphocholine cholinephosphodiesterase activity"
##                    "UDP-N-acetylglucosamine 4-epimerase activity"
##                    "UDP-glucose 4-epimerase activity"
##                    "retinal binding"
##                    "sedoheptulose-7-phosphate:D-glyceraldehyde-3-phosphate glyceronetransferase activi
##                    "lutropin-choriogonadotropic hormone receptor binding"
##                    "calcium-transporting ATPase activity involved in regulation of cardiac muscle cel
##                    "mismatched DNA binding"
##                    "hexaprenyldihydroxybenzoate methyltransferase activity"
```

```
##                     "2-polyprenyl-6-methoxy-1,4-benzoquinone methyltransferase activity"
##                     "3-demethylubiquinone-9 3-O-methyltransferase activity"
##                     "decaprenyldihydroxybenzoate methyltransferase activity"
##                     "3-demethylubiquinone-10 3-O-methyltransferase activity"
##                     "mRNA CDS binding"
##                     "adenosine kinase activity"
##                     "3-chloroallyl aldehyde dehydrogenase activity"
##                     "fructose 1,6-bisphosphate 1-phosphatase activity"
##                     "pyrroline-5-carboxylate reductase activity"
##                     "L-aspartate transmembrane transporter activity"
##                     "heme binding"
##                     "acetyl-CoA carboxylase activity"
##                     "flavin-linked sulfhydryl oxidase activity"
##                     "UDP-glycosyltransferase activity"
##                     "ethanol binding"
##                     "neurotrophin p75 receptor binding"
##                     "disordered domain specific binding"
##                     "aspartate binding"
##                     "androgen binding"
##                     "glutathione peroxidase activity"
##                     "sodium channel activity"
##                     "aspartate carbamoyltransferase activity"
##                     "carbamoyl-phosphate synthase (ammonia) activity"
##                     "carbamoyl-phosphate synthase (glutamine-hydrolyzing) activity"
##                     "dihydroorotase activity"
##                     "valine-tRNA ligase activity"
##                     "apolipoprotein binding"
##                     "amino acid transmembrane transporter activity"
##                     "phosphorylase activity"
##                     "iron ion transmembrane transporter activity"
##                     "protein phosphatase 2B binding"
##                     "nuclear import signal receptor activity"
##                     "protein histidine kinase activity"
##                     "ubiquitin-specific protease activity involved in negative regulation of retrograd
##                     "cAMP-dependent protein kinase regulator activity"
##                     "pyruvate kinase activity"
##                     "3-oxo-arachidoyl-CoA reductase activity"
##                     "3-oxo-behenoyl-CoA reductase activity"
##                     "3-oxo-lignoceroyl-CoA reductase activity"
##                     "3-oxo-cerotoyl-CoA reductase activity"
##                     "glutamate-tRNA(Gln) ligase activity"
##                     "glyceraldehyde-3-phosphate dehydrogenase (NAD+) (phosphorylating) activity"
##                     "acetyl-CoA C-acyltransferase activity"
##                     "peroxisome matrix targeting signal-2 binding"
##                     "FK506 binding"
##                     "glycerophosphodiester phosphodiesterase activity"
##                     "isovaleryl-CoA dehydrogenase activity"
##                     "alpha-ketoacid dehydrogenase activity"
##                     "3-methyl-2-oxobutanoate dehydrogenase (2-methylpropanoyl-transferring) activity"
##                     "ketosteroid monooxygenase activity"
##                     "ATP-dependent 5'-3' DNA helicase activity"
##                     "ferredoxin-NADP+ reductase activity"
##                     "NADPH-adrenodoxin reductase activity"
##                     "NAD+ ADP-ribosyltransferase activity"
```

```
##                      "aspartic endopeptidase activity, intramembrane cleaving"
##                      "L-cysteine:2-oxoglutarate aminotransferase activity"
##                      "thyroid hormone binding"
##                      "Rho GDP-dissociation inhibitor activity"
##                      "steroid dehydrogenase activity"
##                      "2-aminoadipate transaminase activity"
##                      "acetyl-CoA binding"
##                      "neurotrophin receptor activity"
##                      "receptor activator activity"
##                      "antioxidant activity"
##                      "denatured protein binding"
##                      "4-hydroxyglutamate transaminase activity"
##                      "electron-transferring-flavoprotein dehydrogenase activity"
##                      "nerve growth factor receptor activity"
##                      "cytochrome-b5 reductase activity, acting on NAD(P)H"
##                      "isomerase activity"
##                      "L-glutamate transmembrane transporter activity"
##                      "mannose-6-phosphate isomerase activity"
##                      "Ran guanyl-nucleotide exchange factor activity"
##                      "outward rectifier potassium channel activity"
##                      "adenyl-nucleotide exchange factor activity"
##                      "glycolate oxidase activity"
##                      "glyoxylate oxidase activity"
##                      "ubiquitin-specific protease binding"
##                      "3-oxoacid CoA-transferase activity"
##                      "cAMP response element binding"
##                      "glycine hydroxymethyltransferase activity"
##                      "L-allo-threonine aldolase activity"
##                      "transferase activity, transferring acyl groups other than amino-acyl groups"
##                      "aspartic-type endopeptidase activity"
##                      "phosphatidylinositol-4,5-bisphosphate 5-phosphatase activity"
##                      "peptidoglycan binding"
##                      "histone deacetylase inhibitor activity"
##                      "transaminase activity"
##                      "alpha-tubulin binding"
##                      "neuroligin family protein binding"
##                      "oxidoreductase activity, acting on the CH-CH group of donors"
##                      "cobalt ion binding"
##                      "BH domain binding"
##                      "glutathione dehydrogenase (ascorbate) activity"
##                      "methylarsonate reductase activity"
##                      "threonine synthase activity"
##                      "adrenergic receptor binding"
##                      "protein-arginine omega-N monomethyltransferase activity"
##                      "sulfate transmembrane transporter activity"
##                      "K48-linked polyubiquitin modification-dependent protein binding"
##                      "protein disulfide isomerase activity"
##                      "[3-methyl-2-oxobutanoate dehydrogenase (acetyl-transferring)] kinase activity"
##                      "aspartate-tRNA ligase activity"
##                      "voltage-gated potassium channel activity"
##                      "aminoacylase activity"
##                      "aldo-keto reductase (NADP) activity"
##                      "GPI-linked ephrin receptor activity"
##                      "clathrin-uncoating ATPase activity"
```

```
##                     "GABA receptor binding"
##                     "poly(A) binding"
##                     "serine-type exopeptidase activity"
##                     "D-serine ammonia-lyase activity"
##                     "threonine racemase activity"
##                     "serine racemase activity"
##                     "gap junction channel activity involved in cell communication by electrical coupli
##                     "gap junction channel activity involved in cardiac conduction electrical coupling"
##                     "tyrosine 3-monooxygenase activator activity"
##                     "L-dopa decarboxylase activator activity"
##                     "protein deglycase activity"
##                     "mercury ion binding"
##                     "neurotrophin binding"
##                     "long-chain-3-hydroxyacyl-CoA dehydrogenase activity"
##                     "H3K27me3 modified histone binding"
##                     "Ran GTPase binding"
##                     "kininogen binding"
##                     "deoxyhypusine monooxygenase activity"
##                     "N-acetylmuramoyl-L-alanine amidase activity"
##                     "serine binding"
##                     "carnitine O-palmitoyltransferase activity"
##                     "5S rRNA binding"
##                     "gap junction channel activity"
##                     "ribosomal small subunit binding"
##                     "uridine kinase activity"
##                     "malic enzyme activity"
##                     "acetylcholine receptor binding"
##                     "serine-pyruvate transaminase activity"
##                     "metalloaminopeptidase activity"
##                     "double-strand/single-strand DNA junction binding"
##                     "alanine-glyoxylate transaminase activity"
##                     "very long-chain fatty acid-CoA ligase activity"
##                     "acetyl-CoA C-acetyltransferase activity"
##                     "tau protein binding"
##                     "nerve growth factor binding"
##                     "RNA polymerase II sequence-specific DNA-binding transcription factor binding"
##                     "methylcrotonoyl-CoA carboxylase activity"
##                     "cAMP response element binding protein binding"
##                     "histidine-tRNA ligase activity"
##                     "dynein complex binding"
##                     "peptide binding"
##                     "heteroduplex DNA loop binding"
##                     "dimethylallyltranstransferase activity"
##                     "geranyltranstransferase activity"
##                     "eukaryotic initiation factor 4G binding"
##                     "3-oxoacyl-[acyl-carrier-protein] synthase activity"
##                     "peroxisome proliferator activated receptor binding"
##                     "ion channel binding"
##                     "nicotinamide-nucleotide adenylyltransferase activity"
##                     "dicarboxylic acid transmembrane transporter activity"
##                     "mitochondrial promoter sequence-specific DNA binding"
##                     "lipid kinase activity"
##                     "3'-tyrosyl-DNA phosphodiesterase activity"
##                     "GTPase regulator activity"
```

```
##                      "arginyltransferase activity"
##                      "ribonucleoside binding"
##                      "glucuronosyltransferase activity"
##                      "malate dehydrogenase (decarboxylating) (NAD+) activity"
##                      "malate dehydrogenase (decarboxylating) (NADP+) activity"
##                      "primary amine oxidase activity"
##                      "thiosulfate transmembrane transporter activity"
##                      "oxaloacetate transmembrane transporter activity"
##                      "malate transmembrane transporter activity"
##                      "dinucleotide insertion or deletion binding"
##                      "succinate transmembrane transporter activity"
##                      "phosphoribosylformylglycinamidine synthase activity"
##                      "carboxypeptidase activity"
##                      "Lys63-specific deubiquitinase activity"
##                      "gluconolactonase activity"
##                      "adenylate kinase activity"
##                      "very-long-chain enoyl-CoA reductase activity"
##                      "secondary active transmembrane transporter activity"
##                      "carbonate dehydratase activity"
##                      "ubiquitin activating enzyme activity"
##                      "ATP adenylyltransferase activity"
##                      "lysine-tRNA ligase activity"
##                      "neutral amino acid transmembrane transporter activity"
##                      "argininosuccinate synthase activity"
##                      "lysophosphatidic acid phosphatase activity"
##                      "kinesin binding"
##                      "oxidoreductase activity, oxidizing metal ions with flavin as acceptor"
##                      "potassium channel activity"
##                      "benzodiazepine receptor activity"
##                      "peroxiredoxin activity"
##                      "hydroxymethylglutaryl-CoA lyase activity"
##                      "protein-containing complex binding"
##                      "oxidized purine DNA binding"
##                      "peroxidase activity"
##                      "ion transmembrane transporter activity"
##                      "tRNA (guanosine-2'-O-)-methyltransferase activity"
##                      "tRNA (cytosine-2'-O-)-methyltransferase activity"
##                      "poly(U) RNA binding"
##                      "complement component C1q binding"
##                      "MAP kinase kinase activity"
##                      "glutamine-tRNA ligase activity"
##                      "protein transporter activity"
##                      NA
##                      "proteasome-activating ATPase activity"
##                      "arginase activity"
##                      "calcium-dependent protein serine/threonine phosphatase activity"
##                      "structural constituent of postsynaptic actin cytoskeleton"
##                      "proteinase activated receptor binding"
##                      "structural constituent of ribosome"
##                      "myosin binding"
##                      "phosphatidate cytidylyltransferase activity"
##                      "glucosaminyl-phosphotidylinositol O-acyltransferase activity"
##                      "organic acid binding"
##                      "MHC class II protein complex binding"
```

```
##                    "FAD binding"
##                    "endoribonuclease inhibitor activity"
##                    "indanol dehydrogenase activity"
##                    "long-chain fatty acyl-CoA binding"
##                    "phenanthrene 9,10-monooxygenase activity"
##                    "trans-1,2-dihydrobenzene-1,2-diol dehydrogenase activity"
##                    "protein kinase A catalytic subunit binding"
##                    "GTP-dependent protein binding"
##                    "glutamate-tRNA ligase activity"
##                    "palmitoyl-(protein) hydrolase activity"
##                    "peptide disulfide oxidoreductase activity"
##                    "calcium:proton antiporter activity"
##                    "propanoyl-CoA C-acyltransferase activity"
##                    "propionyl-CoA C2-trimethyltridecanoyltransferase activity"
##                    "Tat protein binding"
##                    "glycogen debranching enzyme activity"
##                    "4-alpha-glucanotransferase activity"
##                    "amylo-alpha-1,6-glucosidase activity"
##                    "beta-maltose 4-alpha-glucanotransferase activity"
##                    "BH2 domain binding"
##                    "endopeptidase activator activity"
##                    "carboxy-lyase activity"
##                    "1,5-anhydro-D-fructose reductase activity"
##                    "peptide-methionine (S)-S-oxide reductase activity"
##                    "oxidoreductase activity, acting on peroxide as acceptor"
##                    "L-glucuronate reductase activity"
##                    "Rho guanyl-nucleotide exchange factor activity"
##                    "glutathione binding"
##                    "ligase activity"
##                    "D-lactate dehydrogenase (cytochrome) activity"
##                    "protein tag"
##                    "NF-kappaB-inducing kinase activity"
##                    "phosphatidylinositol bisphosphate phosphatase activity"
##                    "exopeptidase activity"
##                    "tRNA (guanine-N1-)-methyltransferase activity"
##                    "oxaloacetate decarboxylase activity"
##                    "phenylalanine-tRNA ligase activity"
##                    "GTP-dependent protein kinase activity"
##                    "peroxidase inhibitor activity"
##                    "lipopolysaccharide binding"
##                    "iron-sulfur cluster binding"
##                    "catalase activity"
##                    "oxidoreductase activity, acting on paired donors, with incorporation or reduction
##                    "N-methyltransferase activity"
##                    "dolichyl-diphosphooligosaccharide-protein glycotransferase activity"
##                    "glucosylceramidase activity"
##                    "beta-endorphin binding"
##                    "deubiquitinase activator activity"
##                    "IMP cyclohydrolase activity"
##                    "phosphoribosylaminoimidazolecarboxamide formyltransferase activity"
##                    "antiporter activity"
##                    "protein carboxyl O-methyltransferase activity"
##                    "CTP binding"
##                    "ribonuclease inhibitor activity"
```

```
##                     "cystathionine gamma-synthase activity"
##                     "cystathionine gamma-lyase activity"
##                     "L-cystine L-cysteine-lyase (deaminating)"
##                     "homocysteine desulfhydrase activity"
##                     "L-cysteine desulfhydrase activity"
##                     "RNA polymerase I transcription factor binding"
##                     "tRNA (guanine(9)-N(1))-methyltransferase activity"
##                     "adenylate cyclase binding"
##                     "sulfonylurea receptor binding"
##                     "calcium channel inhibitor activity"
##                     "CoA-ligase activity"
##                     "transferase activity"
##                     "double-stranded RNA binding"
##                     "5'-3' DNA helicase activity"
##                     "structural molecule activity"
##                     "UTP binding"
##                     "ion antiporter activity involved in regulation of presynaptic membrane potential"
##                     "1-alkyl-2-acetylglycerophosphocholine esterase activity"
##                     "receptor serine/threonine kinase binding"
##                     "peroxisome membrane class-1 targeting sequence binding"
##                     "hyaluronic acid binding"
##                     "isoleucine-tRNA ligase activity"
##                     "beta-catenin destruction complex binding"
##                     "sulfite oxidase activity"
##                     "oleic acid binding"
##                     "prenylated protein tyrosine phosphatase activity"
##                     "GMP reductase activity"
##                     "calcium activated cation channel activity"
##                     "pyrimidine nucleotide-sugar transmembrane transporter activity"
##                     "5-formyltetrahydrofolate cyclo-ligase activity"
##                     "mRNA (2'-O-methyladenosine-N6-)-methyltransferase activity"
##                     "geranylgeranyl reductase activity"
##                     "protein-arginine omega-N asymmetric methyltransferase activity"
##                     "rRNA (guanosine-2'-O-)-methyltransferase activity"
##                     "palmitoyl-CoA hydrolase activity"
##                     "Atg8 ligase activity"
##                     "asparaginase activity"
##                     "serine-type peptidase activity"
##                     "alpha-ketoglutarate transmembrane transporter activity"
##                     "prostaglandin-E synthase activity"
##                     "tRNA methyltransferase activity"
##                     "membrane insertase activity"
##                     "calmodulin-dependent protein phosphatase activity"
##                     "chlordecone reductase activity"
##                     "uniporter activity"
##                     "androsterone dehydrogenase (B-specific) activity"
##                     "transcription factor activity, RNA polymerase II core promoter sequence-specific l
##                     "N,N-dimethylaniline monooxygenase activity"
##                     "tubulin deacetylase activity"
##                     "ribose phosphate diphosphokinase activity"
##                     "translation activator activity"
##                     "sulfur dioxygenase activity"
##                     "kinase binding"
##                     "structural constituent of postsynapse"
```

```
##                     "intermediate filament binding"
##                     "tumor necrosis factor-activated receptor activity"
##                     "tumor necrosis factor binding"
##                     "bile acid transmembrane transporter activity"
##                     "ligase activity, forming carbon-carbon bonds"
##                     "17-alpha,20-alpha-dihydroxypregn-4-en-3-one dehydrogenase activity"
##                     "bis(5'-adenosyl)-triphosphatase activity"
##                     "enoyl-CoA hydratase activity"
##                     "ARF guanyl-nucleotide exchange factor activity"
##                     "potassium ion binding"
##                     "phosphate ion binding"
##                     "procollagen-proline 4-dioxygenase activity"
##                     "MutLalpha complex binding"
##                     "peptidyl-proline 4-dioxygenase activity"
##                     "carbon-sulfur lyase activity"
##                     "ATPase activity, coupled to transmembrane movement of substances"
##                     "low-density lipoprotein particle receptor binding"
##                     "identical protein binding"
##                     "tryptophan-tRNA ligase activity"
##                     "coproporphyrinogen oxidase activity"
##                     "nitrilase activity"
##                     "5'-3' exoribonuclease activity"
##                     "spermine synthase activity"
##                     "ER retention sequence binding"
##                     "peptidoglycan receptor activity"
##                     "glycine binding"
##                     "G-quadruplex DNA binding"
##                     "nuclear localization sequence binding"
##                     "oligosaccharyl transferase activity"
##                     "pantothenate kinase activity"
##                     "asparagine-tRNA ligase activity"
##                     "arsenite transmembrane transporter activity"
##                     "molybdopterin cofactor binding"
##                     "delta4-3-oxosteroid 5beta-reductase activity"
##                     "drug transmembrane transporter activity"
##                     "diphthine synthase activity"
##                     "D-lactate dehydrogenase activity"
##                     "ribosomal large subunit binding"
##                     "molybdenum ion binding"
##                     "androsterone dehydrogenase activity"
##                     "protein antigen binding"
##                     "phosphoglycerate kinase activity"
##                     "calcium-transporting ATPase activity involved in regulation of postsynaptic cytose
##                     "phospholipase binding"
##                     "porphobilinogen synthase activity"
##                     "virion binding"
##                     "mevalonate transmembrane transporter activity"
##                     "aspartate-tRNA(Asn) ligase activity"
##                     "dATP binding"
##                     "calcium-independent phospholipase A2 activity"
##                     "queuine tRNA-ribosyltransferase activity"
##                     "ribonuclease III activity"
##                     "glycerone kinase activity"
##                     "FAD-AMP lyase (cyclizing) activity"
```

```
##                        "triokinase activity"
##                        "calcium-independent protein kinase C activity"
##                        "KDEL sequence binding"
##                        "titin Z domain binding"
##                        "sn-glycerol-3-phosphate:ubiquinone-8 oxidoreductase activity"
##                        "aminopeptidase activity"
##                        "alkylbase DNA N-glycosylase activity"
##                        "DNA-3-methyladenine glycosylase activity"
##                        "DNA-7-methylguanine glycosylase activity"
##                        "DNA-7-methyladenine glycosylase activity"
##                        "DNA-3-methylguanine glycosylase activity"
##                        "lactate transmembrane transporter activity"
##                        "microtubule-severing ATPase activity"
##                        "calcium-transporting ATPase activity involved in regulation of presynaptic cytosol
##                        "norepinephrine binding"
##                        "prolactin receptor binding"
##                        "sulfate binding"
##                        "myosin V binding"
##                        "creatine kinase activity"
##                        "phosphatidylethanolamine binding"
##                        "peptide-methionine (R)-S-oxide reductase activity"
##                        "endopeptidase activity"
##                        "thioredoxin-disulfide reductase activity"
##                        "acid phosphatase activity"
##                        "carbon-carbon lyase activity"
##                        "BAT3 complex binding"
##                        "alanine-tRNA ligase activity"
##                        "citrate transmembrane transporter activity"
##                        "glycine dehydrogenase (decarboxylating) activity"
##                        "secondary active sulfate transmembrane transporter activity"
##                        "S-formylglutathione hydrolase activity"
##                        "pyridoxal binding"
##                        "tRNA-specific ribonuclease activity"
##                        "DNA helicase activity"
##                        "NAD(P)+ transhydrogenase (B-specific) activity"
##                        "NAD(P)+ transhydrogenase activity"
##                        "NAD(P)+ transhydrogenase (AB-specific) activity"
##                        "macrophage migration inhibitory factor binding"
##                        "MAP kinase activity"
##                        "thiamine transmembrane transporter activity"
##                        "glucosamine-6-phosphate deaminase activity"
##                        "methylumbelliferyl-acetate deacetylase activity"
##                        "polyubiquitin modification-dependent protein binding"
##                        "sphinganine-1-phosphate aldolase activity"
##                        "phosphoserine residue binding"
##                        "receptor inhibitor activity"
##                        "L-methionine-(R)-S-oxide reductase activity"
##                        "histone-arginine N-methyltransferase activity"
##                        "diiodophenylpyruvate reductase activity"
##                        "peptidase inhibitor activity"
##                        "UFM1 activating enzyme activity"
##                        "18S rRNA (adenine(1779)-N(6)/adenine(1780)-N(6))-dimethyltransferase activity"
##                        "ferroxidase activity"
##                        "cupric ion binding"
```

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```
##                     "Ser-tRNA(Ala) hydrolase activity"
##                     "anion transmembrane transporter activity"
##                     "2-octaprenyl-6-methoxy-1,4-benzoquinone methylase activity"
##                     "2-decaprenyl-6-methoxy-1,4-benzoquinone methyltransferase activity"
##                     "C-X3-C chemokine binding"
##                     "anion:anion antiporter activity"
##                     "testosterone 6-beta-hydroxylase activity"
##                     "lysophospholipase activity"
##                     "FATZ binding"
##                     "inward rectifier potassium channel activity"
##                     "ATP-dependent protein binding"
##                     "dol-P-Man:Man(7)GlcNAc(2)-PP-Dol alpha-1,6-mannosyltransferase activity"
##                     "cyclic-di-GMP binding"
##                     "cyclic-GMP-AMP binding"
##                     "lipase inhibitor activity"
##                     "3'-5' RNA helicase activity"
##                     "iron chaperone activity"
##                     "phosphatidylcholine binding"
##                     "sodium:potassium-exchanging ATPase activity"
##                     "RNA trimethylguanosine synthase activity"
##                     "hydrolase activity, acting on ester bonds"
##                     "BH3 domain binding"
##                     "selenium binding"
##                     "adenylylsulfate kinase activity"
##                     "sulfate adenylyltransferase (ATP) activity"
##                     "HMG box domain binding"
##                     "AMP-activated protein kinase activity"
##                     "endopolyphosphatase activity"
##                     "diphosphoinositol-polyphosphate diphosphatase activity"
##                     "bis(5'-adenosyl)-hexaphosphatase activity"
##                     "bis(5'-adenosyl)-pentaphosphatase activity"
##                     "inositol diphosphate tetrakisphosphate diphosphatase activity"
##                     "inositol bisdiphosphate tetrakisphosphate diphosphatase activity"
##                     "inositol diphosphate pentakisphosphate diphosphatase activity"
##                     "inositol-1-diphosphate-2,3,4,5,6-pentakisphosphate diphosphatase activity"
##                     "inositol-3-diphosphate-1,2,4,5,6-pentakisphosphate diphosphatase activity"
##                     "inositol-5-diphosphate-1,2,3,4,6-pentakisphosphate diphosphatase activity"
##                     "inositol-1,5-bisdiphosphate-2,3,4,6-tetrakisphosphate 1-diphosphatase activity"
##                     "inositol-1,5-bisdiphosphate-2,3,4,6-tetrakisphosphate 5-diphosphatase activity"
##                     "inositol-3,5-bisdiphosphate-2,3,4,6-tetrakisphosphate 5-diphosphatase activity"
##                     "symporter activity"
##                     NA
##                     "epidermal growth factor-activated receptor activity"
##                     "L-serine transmembrane transporter activity"
##                     "ionotropic glutamate receptor activity"
##                     "pyruvate transmembrane transporter activity"
##                     "IkappaB kinase activity"
##                     "aminocarboxymuconate-semialdehyde decarboxylase activity"
##                     "nucleotide-sugar transmembrane transporter activity"
##                     "amidinotransferase activity"
##                     "glycine amidinotransferase activity"
##                     "delta3,5-delta2,4-dienoyl-CoA isomerase activity"
##                     "laminin receptor activity"
##                     "neuregulin receptor activity"
```

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```
##                    "dynactin binding"
##                    "UDP-glucuronic acid transmembrane transporter activity"
##                    "1-aminocyclopropane-1-carboxylate synthase activity"
##                    "BMP receptor activity"
##                    "leucine binding"
##                    "O-acyltransferase activity"
##                    "protoheme IX farnesyltransferase activity"
##                    "oxidoreductase activity, acting on the aldehyde or oxo group of donors, NAD or NAD
##                    "benzaldehyde dehydrogenase activity"
##                    "arginine-tRNA ligase activity"
##                    "U6 snRNA 3'-end binding"
##                    "protein adenylylhydrolase activity"
##                    "23S rRNA (adenine(1618)-N(6))-methyltransferase activity"
##                    "protein adenylyltransferase activity"
##                    "U6 snRNA (adenine-(43)-N(6))-methyltransferase activity"
##                    "saccharopine dehydrogenase activity"
##                    "saccharopine dehydrogenase (NADP+, L-lysine-forming) activity"
##                    "saccharopine dehydrogenase (NAD+, L-glutamate-forming) activity"
##                    "butyryl-CoA dehydrogenase activity"
##                    "DNA ligase (ATP) activity"
##                    "arylformamidase activity"
##                    "cysteine transmembrane transporter activity"
##                    "L-glutamine transmembrane transporter activity"
##                    "lipase binding"
##                    "telomerase inhibitor activity"
##                    "methylmalonate-semialdehyde dehydrogenase (acylating) activity"
##                    "open rectifier potassium channel activity"
##                    "malonate-semialdehyde dehydrogenase (acetylating) activity"
##                    "drug:proton antiporter activity"
##                    "peroxisome targeting sequence binding"
##                    "peroxisome matrix targeting signal-1 binding"
##                    "heme oxygenase (decyclizing) activity"
##                    "heme transporter activity"
##                    "inositol-1,4,5-trisphosphate 6-kinase activity"
##                    "inositol tetrakisphosphate 3-kinase activity"
##                    "homogentisate 1,2-dioxygenase activity"
##                    "quercetin 2,3-dioxygenase activity"
##                    "inositol tetrakisphosphate 5-kinase activity"
##                    "co-receptor binding"
##                    "xenobiotic transmembrane transporting ATPase activity"
##                    "6,7-dihydropteridine reductase activity"
##                    "thioether S-methyltransferase activity"
##                    "sulfonylurea receptor activity"
##                    "choline dehydrogenase activity"
##                    "amine N-methyltransferase activity"
##                    "S-adenosyl-L-methionine:beta-alanine N-methyltransferase activity"
##                    "rRNA (adenine-N6,N6-)-dimethyltransferase activity"
##                    "oxidoreductase activity, acting on the CH-NH2 group of donors, NAD or NADP as acc
##                    "thiomorpholine-carboxylate dehydrogenase activity"
##                    "phospholipase A1 activity"
##                    "tubulin binding"
##                    "protein-disulfide reductase activity"
##                    "3-hydroxyisobutyrate dehydrogenase activity"
##                    "polysaccharide binding"
```

```
##                     "ligand-gated ion channel activity"
##                     "triglyceride lipase activity"
##                     "RNA cap binding"
##                     "diacylglycerol kinase activity"
##                     "acid sphingomyelin phosphodiesterase activity"
##                     "glycine-tRNA ligase activity"
##                     "calcium ion transmembrane transporter activity"
##                     "nickel cation binding"
##                     "UDP-glucuronate decarboxylase activity"
##                     "RNA polymerase II C-terminal domain phosphoserine binding"
##                     "endoribonuclease activity, cleaving siRNA-paired mRNA"
##                     "3' overhang single-stranded DNA endodeoxyribonuclease activity"
##                     "beta-glucosidase activity"
##                     "protein C-terminal methylesterase activity"
##                     "cobalamin binding"
##                     "death domain binding"
##                     "bis(5'-nucleosyl)-tetraphosphatase (asymmetrical) activity"
##                     "fumarylacetoacetase activity"
##                     "scaffold protein binding"
##                     "benzodiazepine receptor binding"
##                     "4-hydroxy-2-oxoglutarate aldolase activity"
##                     "structural constituent of eye lens"
##                     "magnesium ion transmembrane transporter activity"
##                     "transcription factor activity, RNA polymerase II proximal promoter sequence-speci
##                     "nucleotidyltransferase activity"
##                     "glycine C-acetyltransferase activity"
##                     "leak channel activity"
##                     "phospholipase A2 activity (consuming 1,2-dipalmitoylphosphatidylcholine)"
##                     "phospholipase A2 activity consuming 1,2-dioleoylphosphatidylethanolamine)"
##                     "phosphoric diester hydrolase activity"
##                     "rRNA (adenine) methyltransferase activity"
##                     "dodecenoyl-CoA delta-isomerase activity"
##                     "JUN kinase kinase kinase activity"
##                     "inositol tetrakisphosphate 6-kinase activity"
##                     "JUN kinase phosphatase activity"
##                     "oxygen binding"
##                     "endoribonuclease activity, cleaving miRNA-paired mRNA"
##                     "trimethylamine monooxygenase activity"
##                     "gap junction hemi-channel activity"
##                     "trans-2-enoyl-CoA reductase (NADPH) activity"
##                     "guanyl ribonucleotide binding"
##                     "cAMP-dependent protein kinase activity"
##                     "NEDD8 activating enzyme activity"
##                     "ceramide kinase activity"
##                     "pyridoxamine-phosphate oxidase activity"
##                     "guanyl-nucleotide exchange factor activity"
##                     "coumarin 7-hydroxylase activity"
##                     "interleukin-9 receptor activity"
##                     "dTDP-glucose 4,6-dehydratase activity"
##                     "copper chaperone activity"
##                     "glyceraldehyde oxidoreductase activity"
##                     "methionine synthase activity"
##                     "thymidylate kinase activity"
##                     "FHA domain binding"
```

```
##                     "channel activity"
##                     "1-phosphatidylinositol-5-phosphate 4-kinase activity"
##                     "trans-hexaprenyltranstransferase activity"
##                     "glycerol-3-phosphate O-acyltransferase activity"
##                     "nicotinate phosphoribosyltransferase activity"
##                     "acetate CoA-transferase activity"
##                     "trans-octaprenyltranstransferase activity"
##                     "sn-1-glycerol-3-phosphate C16:0-DCA-CoA acyl transferase activity"
##                     "FBXO family protein binding"
##                     "histidine ammonia-lyase activity"
##                     "elongation factor-2 kinase activity"
##                     "translation factor activity, non-nucleic acid binding"
##                     "oxoglutarate:malate antiporter activity"
##                     "tRNA 2'-phosphotransferase activity"
##                     "alcohol dehydrogenase activity, zinc-dependent"
##                     "structural constituent of bone"
##                     "TFIIF-class transcription factor complex binding"
##                     "glutathione-disulfide reductase activity"
##                     "fibronectin binding"
##                     "RNA lariat debranching enzyme activity"
##                     "acylglycerol kinase activity"
##                     "A-type (transient outward) potassium channel activity"
##                     "phosphoenolpyruvate carboxykinase (GTP) activity"
##                     "tRNA (guanine(37)-N(1))-methyltransferase activity"
##                     "caspase binding"
##                     "5'-nucleotidase activity"
##                     "TPR domain binding"
##                     "pre-miRNA binding"
##                     "G-protein gamma-subunit binding"
##                     "inositol 1,4,5-trisphosphate-sensitive calcium-release channel activity"
##                     "ethanolamine-phosphate cytidylyltransferase activity"
##                     "ion channel activity"
##                     "nucleoside phosphotransferase activity"
##                     "acetyl-CoA transmembrane transporter activity"
##                     "beta-aspartyl-peptidase activity"
##                     "ethanolaminephosphotransferase activity"
##                     "folic acid transmembrane transporter activity"
##                     "POZ domain binding"
##                     "choline O-acetyltransferase activity"
##                     "choline binding"
##                     "histone demethylase activity (H3-monomethyl-K4 specific)"
##                     "serine-type carboxypeptidase activity"
##                     "methanethiol oxidase activity"
##                     "11-beta-hydroxysteroid dehydrogenase (NADP+) activity"
##                     "glycine transmembrane transporter activity"
##                     "transcription corepressor binding"
##                     "H4K20me3 modified histone binding"
##                     "mycophenolic acid acyl-glucuronide esterase activity"
##                     "11-beta-hydroxysteroid dehydrogenase [NAD(P)] activity"
##                     "hydrolase activity, acting on glycosyl bonds"
##                     "C-rich single-stranded DNA binding"
##                     "tRNA (adenine-N1-)-methyltransferase activity"
##                     "mRNA (adenine-N1-)-methyltransferase activity"
##                     "syntaxin-1 binding"
```

```
##                     "inositol monophosphate 1-phosphatase activity"
##                     "inositol monophosphate 3-phosphatase activity"
##                     "inositol monophosphate 4-phosphatase activity"
##                     "platelet-activating factor acetyltransferase activity"
##                     "sterol esterase activity"
##                     "methylated-DNA-[protein]-cysteine S-methyltransferase activity"
##                     "caffeine oxidase activity"
##                     "deoxynucleotide transmembrane transporter activity"
##                     "acetylcholine receptor activator activity"
##                     "thiamine pyrophosphate transmembrane transporter activity"
##                     "voltage-gated potassium channel activity involved in ventricular cardiac muscle ce
##                     "dITP diphosphatase activity"
##                     "ITP diphosphatase activity"
##                     "XTP diphosphatase activity"
##                     "calcium oxalate binding"
##                     "glutaminyl-tRNA synthase (glutamine-hydrolyzing) activity"
##                     "high-affinity glutamate transmembrane transporter activity"
##                     "glutamate:sodium symporter activity"
##                     "palmitoyl-CoA oxidase activity"
##                     "ubiquitin-specific protease activity involved in positive regulation of ERAD pathw
##                     "TRAIL binding"
##                     "inositol monophosphate phosphatase activity"
##                     "histone methyltransferase activity (H4-R3 specific)"
##                     "NAD-dependent histone deacetylase activity (H3-K18 specific)"
##                     "delta24(24-1) sterol reductase activity"
##                     "maleylacetoacetate isomerase activity"
##                     "hydrolase activity, acting on acid halide bonds, in C-halide compounds"
##                     "delta24-sterol reductase activity"
##                     "NAD(P)H dehydrogenase (quinone) activity"
##                     "solute:proton symporter activity"
##                     "monovalent inorganic cation transmembrane transporter activity"
##                     "holocytochrome-c synthase activity"
##                     "DNA ligase activity"
##                     "[acyl-carrier-protein] S-acetyltransferase activity"
##                     "3-oxoacyl-[acyl-carrier-protein] reductase (NADPH) activity"
##                     "oleoyl-[acyl-carrier-protein] hydrolase activity"
##                     "myristoyl-[acyl-carrier-protein] hydrolase activity"
##                     "palmitoyl-[acyl-carrier-protein] hydrolase activity"
##                     "enoyl-[acyl-carrier-protein] reductase (NADPH, A-specific) activity"
##                     "3-hydroxyoctanoyl-[acyl-carrier-protein] dehydratase activity"
##                     "3-oxo-glutaryl-[acp] methyl ester reductase activity"
##                     "3-oxo-pimeloyl-[acp] methyl ester reductase activity"
##                     "centromeric DNA binding"
##                     "tricarboxylic acid transmembrane transporter activity"
##                     "chitobiosyldiphosphodolichol beta-mannosyltransferase activity"
##                     "oxidoreductase activity, acting on the CH-CH group of donors, NAD or NADP as acce
##                     "cis-stilbene-oxide hydrolase activity"
##                     "calmodulin-dependent protein kinase activity"
##                     "mannosyltransferase activity"
##                     "3',5'-cyclic-nucleotide phosphodiesterase activity"
##                     "voltage-gated potassium channel activity involved in cardiac muscle cell action p
##                     "propionyl-CoA carboxylase activity"
##                     "uroporphyrinogen decarboxylase activity"
##                     "oxidoreductase activity, acting on a sulfur group of donors"
```

```
##                     "NADH binding"
##                     "intermembrane ceramide transfer activity"
##                     "pseudouridine synthase activity"
##                     "enhancer sequence-specific DNA binding"
##                     "phosphorelay sensor kinase activity"
##                     NA
##                     "phosphatidylethanolamine-translocating ATPase activity"
##                     "nucleoside binding"
##                     "peptide deformylase activity"
##                     "2-(3-amino-3-carboxypropyl)histidine synthase activity"
##                     "enzyme binding"
##                     "adenosine deaminase activity"
##                     "nucleic acid transmembrane transporter activity"
##                     "RNA transmembrane transporter activity"
##                     "vitamin D3 25-hydroxylase activity"
##                     "m7G(5')pppN diphosphatase activity"
##                     "exopolyphosphatase activity"
##                     "Rab GTPase binding"
##                     "MAP kinase kinase kinase activity"
##                     "intramolecular oxidoreductase activity"
##                     "small GTPase binding"
##                     "interleukin-2 receptor binding"
##                     "3-hydroxyisobutyryl-CoA hydrolase activity"
##                     "AP-1 adaptor complex binding"
##                     "uridylate kinase activity"
##                     "calcium-dependent phospholipase A2 activity"
##                     "vitamin D 24-hydroxylase activity"
##                     "guanine phosphoribosyltransferase activity"
##                     "glutaryl-CoA dehydrogenase activity"
##                     "protein N-terminus binding"
##                     "oxidized pyrimidine nucleobase lesion DNA N-glycosylase activity"
##                     "serpin family protein binding"
##                     "palmitoleoyltransferase activity"
##                     "lyase activity"
##                     "ubiquitin-protein transferase regulator activity"
##                     "ceramide-translocating ATPase activity"
##                     "dihydroceramide kinase activity"
##                     "bile acid-exporting ATPase activity"
##                     "phospholipase C activity"
##                     "NADPH:quinone reductase activity"
##                     "rRNA cytidine N-acetyltransferase activity"
##                     "cyclin-dependent protein kinase activating kinase activity"
##                     "phosphorylase kinase activity"
##                     "recombinase activity"
##                     "BLOC-2 complex binding"
##                     "cysteine-type endopeptidase activity involved in execution phase of apoptosis"
##                     "RNA polymerase II core promoter sequence-specific DNA binding"
##                     "chondroitin sulfate binding"
##                     "mRNA guanylyltransferase activity"
##                     "alpha-1,4-glucosidase activity"
##                     "RNA guanylyltransferase activity"
##                     "maltose alpha-glucosidase activity"
##                     "triphosphatase activity"
##                     "tyrosyl-RNA phosphodiesterase activity"
```

```
##                     "deoxyribonuclease inhibitor activity"
##                     "5'-tyrosyl-DNA phosphodiesterase activity"
##                     "ceramide 1-phosphate binding"
##                     "ceramide 1-phosphate transporter activity"
##                     "histone methyltransferase binding"
##                     "very-low-density lipoprotein particle binding"
##                     "C-5 sterol desaturase activity"
##                     "nuclear export signal receptor activity"
##                     "RNA polymerase I general transcription initiation factor activity"
##                     "alcohol dehydrogenase (NAD) activity"
##                     "S-adenosylmethionine-dependent methyltransferase activity"
##                     "amide binding"
##                     "signal sequence binding"
##                     "cysteine-type carboxypeptidase activity"
##                     "proteasome core complex binding"
##                     "kynureninase activity"
##                     "3-hydroxykynureninase activity"
##                     "phosphatidylcholine-translocating ATPase activity"
##                     "translation repressor activity, mRNA regulatory element binding"
##                     "FMN adenylyltransferase activity"
##                     "13-prostaglandin reductase activity"
##                     "iron-sulfur transferase activity"
##                     "15-oxoprostaglandin 13-oxidase activity"
##                     "molybdopterin adenylyltransferase activity"
##                     "molybdopterin molybdotransferase activity"
##                     "fatty acid synthase activity"
##                     "[acyl-carrier-protein] S-malonyltransferase activity"
##                     "channel inhibitor activity"
##                     "cholesterol transporter activity"
##                     "CDP-diacylglycerol-inositol 3-phosphatidyltransferase activity"
##                     "alcohol binding"
##                     "protein dimerization activity"
##                     "nitrate reductase activity"
##                     "LIM domain binding"
##                     "interleukin-16 binding"
##                     "interleukin-16 receptor activity"
##                     "testosterone 17-beta-dehydrogenase (NADP+) activity"
##                     "p53 binding"
##                     "acyl carnitine transmembrane transporter activity"
##                     "ubiquitin-like protein transferase activity"
##                     "RNA N1-methyladenosine dioxygenase activity"
##                     "tryptophan 2,3-dioxygenase activity"
##                     "ankyrin binding"
##                     "single base insertion or deletion binding"
##                     "U4 snRNA binding"
##                     "DNA polymerase processivity factor activity"
##                     "carnitine O-acetyltransferase activity"
##                     "transferase activity, transferring acyl groups"
##                     "phosphatidylinositol-5-phosphate binding"
##                     "serine-type endopeptidase activity"
##                     "dimethylargininase activity"
##                     "thymidylate synthase activity"
##                     "8-oxo-7,8-dihydroguanine DNA N-glycosylase activity"
##                     "proline-tRNA ligase activity"
```

```
##                     "voltage-gated ion channel activity"
##                     "triose-phosphate isomerase activity"
##                     "box C/D snoRNA binding"
##                     "lipoyl(octanoyl) transferase activity"
##                     "testosterone dehydrogenase (NAD+) activity"
##                     "octanoyl transferase activity (acting on glycine-cleavage complex H protein)"
##                     "ATP-activated inward rectifier potassium channel activity"
##                     "lysine-acetylated histone binding"
##                     "lactase activity"
##                     "sphingosine hydroxylase activity"
##                     "angiotensin receptor activity"
##                     "L-amino-acid oxidase activity"
##                     "IgM binding"
##                     "alpha-1,3-galactosyltransferase activity"
##                     "beta-1,4-mannosylglycoprotein 4-beta-N-acetylglucosaminyltransferase activity"
##                     "beta-carotene 15,15'-monooxygenase activity"
##                     "beta-ureidopropionase activity"
##                     "5-aminolevulinate synthase activity"
##                     "L-iduronidase activity"
##                     "(N-acetylneuraminyl)-galactosylglucosylceramide N-acetylgalactosaminyltransferase
##                     "acetylglutamate kinase activity"
##                     "acetyl-CoA:L-glutamate N-acetyltransferase activity"
##                     "cyclic-nucleotide phosphodiesterase activity"
##                     "oligo-1,6-glucosidase activity"
##                     "sucrose alpha-glucosidase activity"
##                     "glycosylphosphatidylinositol phospholipase D activity"
##                     "gonadotropin-releasing hormone receptor activity"
##                     "intracellular sodium activated potassium channel activity"
##                     "organic acid:sodium symporter activity"
##                     "low-affinity glucose:sodium symporter activity"
##                     "eye pigment precursor transporter activity"
##                     "nucleoside:sodium symporter activity"
##                     "galactoside 2-alpha-L-fucosyltransferase activity"
##                     "S-methyltransferase activity"
##                     "nucleotidase activity"
##                     "sucrose:proton symporter activity"
##                     "sodium:iodide symporter activity"
##                     "bile acid:sodium symporter activity"
##                     "folate:anion antiporter activity"
##                     "N-acetylneuraminate lyase activity"
##                     "exoribonuclease II activity"
##                     "type II site-specific deoxyribonuclease activity"
##                     "low-affinity phosphate transmembrane transporter activity"
##                     "sterol 5-alpha reductase activity"
##                     "carotenoid dioxygenase activity"
##                     "heparan-alpha-glucosaminide N-acetyltransferase activity"
##                     "nitrate transmembrane transporter activity"
##                     "prostaglandin transmembrane transporter activity"
##                     "urate transmembrane transporter activity"
##                     "carbohydrate transmembrane transporter activity"
##                     "aromatic amino acid transmembrane transporter activity"
##                     "L-leucine transmembrane transporter activity"
##                     "L-methionine transmembrane transporter activity"
##                     "purine nucleoside transmembrane transporter activity"
```

```
##                  "purine nucleotide transmembrane transporter activity"
##                  "solute:sodium symporter activity"
##                  "sodium:sulfate symporter activity"
##                  "pyrimidine- and adenine-specific:sodium symporter activity"
##                  "purine-specific nucleoside:sodium symporter activity"
##                  "propionate transmembrane transporter activity"
##                  "short-chain fatty acid transmembrane transporter activity"
##                  "translation release factor activity, codon nonspecific"
##                  "urocanate hydratase activity"
##                  "serine O-acyltransferase activity"
##                  "C-X3-C chemokine receptor activity"
##                  "oxidoreductase activity, acting on the CH-NH group of donors"
##                  "oxidoreductase activity, acting on single donors with incorporation of molecular 
##                  "ether hydrolase activity"
##                  "endoribonuclease activity, producing 3'-phosphomonoesters"
##                  "glycosylceramidase activity"
##                  "acetylserotonin O-methyltransferase activity"
##                  "pantetheine hydrolase activity"
##                  "3,4-dihydrocoumarin hydrolase activity"
##                  "pyrimidine nucleotide binding"
##                  "deaminase activity"
##                  "passive transmembrane transporter activity"
##                  "HLA-C specific inhibitory MHC class I receptor activity"
##                  "low-density lipoprotein particle binding"
##                  "guanylate cyclase activator activity"
##                  "CMP-N-acetylneuraminate monooxygenase activity"
##                  "formimidoyltransferase activity"
##                  "glutamate formimidoyltransferase activity"
##                  "formimidoyltetrahydrofolate cyclodeaminase activity"
##                  "inorganic diphosphate transmembrane transporter activity"
##                  "acetoacetate-CoA ligase activity"
##                  "prolactin-releasing peptide receptor binding"
##                  "HECT domain binding"
##                  "sweet taste receptor activity"
##                  "cyanocobalamin reductase (cyanide-eliminating) activity"
##                  "thyroxine 5-deiodinase activity"
##                  "N-acetyl-beta-glucosaminyl-glycoprotein 4-beta-N-acetylgalactosaminyltransferase 
##                  "UMP kinase activity"
##                  "S-nitrosoglutathione binding"
##                  "dinitrosyl-iron complex binding"
##                  "thiocyanate peroxidase activity"
##                  "arachidonate 8(S)-lipoxygenase activity"
##                  "hepatocyte growth factor binding"
##                  "xylosyltransferase activity"
##                  "3'-tRNA processing endoribonuclease activity"
##                  "SMC family protein binding"
##                  "sodium-dependent organic anion transmembrane transporter activity"
##                  "alpha-L-arabinofuranosidase activity"
##                  "sphingolipid transporter activity"
##                  "active borate transmembrane transporter activity"
##                  "vitamin-K-epoxide reductase (warfarin-insensitive) activity"
##                  "N-acetylneuraminate 7-O(or 9-O)-acetyltransferase activity"
##                  "N-acetyllactosaminide 3-alpha-galactosyltransferase activity"
##                  "globoside alpha-N-acetylgalactosaminyltransferase activity"
```

```
##                     "fucose-1-phosphate guanylyltransferase activity"
##                     "D-ribitol-5-phosphate cytidylyltransferase activity"
##                     "dodecanoyl-[acyl-carrier-protein] hydrolase activity"
##                     "glycerophosphoinositol inositolphosphodiesterase activity"
##                     "protein-glucosylgalactosylhydroxylysine glucosidase activity"
##                     "alkenylglycerophosphocholine hydrolase activity"
##                     "alkenylglycerophosphoethanolamine hydrolase activity"
##                     "2-methylcitrate dehydratase activity"
##                     "aconitate decarboxylase activity"
##                     "galactolipase activity"
##                     "carnosine synthase activity"
##                     "D-glutamate cyclase activity"
##                     "D-xylose 1-dehydrogenase (NADP+) activity"
##                     "dimethylglycine dehydrogenase activity"
##                     "glutamine N-acyltransferase activity"
##                     "L-fuconate dehydratase activity"
##                     "inositol oxygenase activity"
##                     "N-acylglucosamine 2-epimerase activity"
##                     "N-formylglutamate deformylase activity"
##                     "thiosulfate-thiol sulfurtransferase activity"
##                     "glyceryl-ether monooxygenase activity"
##                     "imidazolonepropionase activity"
##                     "acyloxyacyl hydrolase activity"
##                     "lysophospholipid transporter activity"
##                     "diamine oxidase activity"
##                     "histamine oxidase activity"
##                     "methylputrescine oxidase activity"
##                     "propane-1,3-diamine oxidase activity"
##                     "norspermine:oxygen oxidoreductase activity"
##                     "N1-acetylspermine:oxygen oxidoreductase (N1-acetylspermidine-forming) activity"
##                     "cyclic-GMP-AMP synthase activity"
##                     "sulfide:quinone oxidoreductase activity"
##                     "adenylyltransferase activity"
##                     "cytidylyltransferase activity"
##                     "uridylyltransferase activity"
##                     "dihydroceramidase activity"
##                     "K11-linked polyubiquitin modification-dependent protein binding"
##                     "poly-ADP-D-ribose binding"
##                     "citrate-L-glutamate ligase activity"
##                     "nicotinate transmembrane transporter activity"
##                     "dIDP diphosphatase activity"
##                     "collagen fibril binding"
##                     "beta,beta-carotene-9',10'-cleaving oxygenase activity"
##                     "homocarnosine synthase activity"
##                     "laurate hydroxylase activity"
##                     "scopolin beta-glucosidase activity"
##                     "dATP phosphohydrolase activity"
##                     "dCTP phosphohydrolase activity"
##                     "dUTP phosphohydrolase activity"
##                     "dTTP phosphohydrolase activity"
##                     "GTP phosphohydrolase activity"
##                     "8-oxo-dGTP phosphohydrolase activity"
##                     "dGTP phosphohydrolase activity"
##                     "1-18:1-2-16:0-monogalactosyldiacylglycerol lipase activity"
```

```
##                     "16-hydroxypalmitate dehydrogenase activity"
##                     "methione N-acyltransferase activity"
##                     "Ala-tRNA(Thr) hydrolase activity"
##                     "ribitol beta-1,4-xylosyltransferase activity"
##                     "monocarboxylate:sodium symporter activity"
##                     "XTP binding"
##                     "ITP binding"
##                     "platinum binding"
##                     "xenon atom binding"
##                     "IDP phosphatase activity"
##                     "trimethylamine receptor activity"
##                     "histone kinase activity (H2A-T120 specific)"
##                     "F-box domain binding"
##                     "mast cell secretagogue receptor activity"
##                     "RNA adenylyltransferase activity"
##                     "NADPH-hemoprotein reductase activity"
##                     "MAP-kinase scaffold activity"
##                     "nitric-oxide synthase activity"
##                     "fatty-acyl-CoA transmembrane transporter activity"
##                     "N-acetylglucosaminylphosphatidylinositol deacetylase activity"
##                     "cholesterol 25-hydroxylase activity"
##                     "aralkylamine N-acetyltransferase activity"
##                     "glucan 1,4-alpha-glucosidase activity"
##                     "glycoprotein-fucosylgalactoside alpha-N-acetylgalactosaminyltransferase activity"
##                     "fucosylgalactoside 3-alpha-galactosyltransferase activity"
##                     "dolichyl-phosphate-mannose-glycolipid alpha-mannosyltransferase activity"
##                     "steryl-sulfatase activity"
##                     "succinyl-CoA hydrolase activity"
##                     "granulocyte colony-stimulating factor receptor binding"
##                     "fructose transmembrane transporter activity"
##                     "sarcosine dehydrogenase activity"
##                     "arginine decarboxylase activity"
##                     "endochitinase activity"
##                     "site-specific DNA-methyltransferase (adenine-specific) activity"
##                     "methotrexate transmembrane transporter activity"
##                     "amylase activity"
##                     "O-palmitoyltransferase activity"
##                     "3-galactosyl-N-acetylglucosaminide 4-alpha-L-fucosyltransferase activity"
##                     "fructosamine-3-kinase activity"
##                     "taste receptor binding"
##                     "purine ribonucleotide binding"
##                     "interleukin-22 binding"
##                     "interleukin-22 receptor activity"
##                     "interleukin-20 receptor binding"
##                     "polyamine oxidase activity"
##                     "phosphatidylcholine-retinol O-acyltransferase activity"
##                     "CDP-glycerol diphosphatase activity"
##                     "hydroxyacid-oxoacid transhydrogenase activity"
##                     "mono-olein transacylation activity"
##                     "diolein transacylation activity"
##                     "corticotropin-releasing hormone receptor binding"
##                     "tRNA-specific adenosine-34 deaminase activity"
##                     "GDP-mannose hydrolase activity"
##                     "N(1),N(12)-diacetylspermine:oxygen oxidoreductase (3-acetamidopropanal-forming) ac
```

```
##                     "spermine:oxygen oxidoreductase (spermidine-forming) activity"
##                     "spermidine:oxygen oxidoreductase (3-aminopropanal-forming) activity"
##                     "N1-acetylspermine:oxygen oxidoreductase (3-acetamidopropanal-forming) activity"
##                     "N1-acetylspermidine:oxygen oxidoreductase (3-acetamidopropanal-forming) activity"
##                     "ADP-ribosyl cyclase activity"
##                     "cyclic ADP-ribose hydrolase"
##                     "potassium channel activator activity"
##                     "N-acetylphosphatidylethanolamine-hydrolysing phospholipas activity"
##                     "lecithin:11-cis retinol acyltransferase activity"
##                     "titin binding"
##                     "purine-specific mismatch base pair DNA N-glycosylase activity"
##                     "CDP-diacylglycerol-serine O-phosphatidyltransferase activity"
##                     "D-amino-acid oxidase activity"
##                     "aspartate 1-decarboxylase activity"
##                     "diacylglycerol cholinephosphotransferase activity"
##                     "methylglutaconyl-CoA hydratase activity"
##                     "retinal isomerase activity"
##                     "intracellular cyclic nucleotide activated cation channel activity"
##                     "L-tyrosine transmembrane transporter activity"
##                     "myo-inositol:sodium symporter activity"
##                     "pyruvate secondary active transmembrane transporter activity"
##                     "D-aspartate oxidase activity"
##                     "phosphatidylinositol transporter activity"
##                     "recombination hotspot binding"
##                     "low-affinity sodium:dicarboxylate symporter activity"
##                     "high-affinity sodium:dicarboxylate symporter activity"
##                     "oligopeptide-transporting ATPase activity"
##                     "peptide-transporting ATPase activity"
##                     "phosphatidylinositol phosphate kinase activity"
##                     "phosphatidylinositol-3,4-bisphosphate 4-phosphatase activity"
##                     "sodium:dicarboxylate symporter activity"
##                     "inositol-1,3,4-trisphosphate 4-phosphatase activity"
##                     "cysteine dioxygenase activity"
##                     "aspartoacylase activity"
##                     "IgA binding"
##                     "transmitter-gated ion channel activity"
##                     "interleukin-17E receptor binding"
##                     "arsenite methyltransferase activity"
##                     "methylarsonite methyltransferase activity"
##                     "taurine binding"
##                     "inhibitory MHC class I receptor activity"
##                     "aspartate dehydrogenase activity"
##                     "lipid-transporting ATPase activity"
##                     "5'-3' RNA polymerase activity"
##                     "phosphatidylinositol-4,5-bisphosphate 4-phosphatase activity"
##                     "alpha-1,4-N-acetylgalactosaminyltransferase activity"
##                     "L-DOPA receptor activity"
##                     "(R)-3-amino-2-methylpropionate-pyruvate transaminase activity"
##                     "ganglioside galactosyltransferase activity"
##                     "itaconyl-CoA hydratase activity"
##                     "calcium-dependent phospholipase C activity"
##                     "hyaluronan synthase activity"
##                     "tryptamine:oxygen oxidoreductase (deaminating) activity"
##                     "aminoacetone:oxygen oxidoreductase(deaminating) activity"
```

```
##                     "aliphatic-amine oxidase activity"
##                     "phenethylamine:oxygen oxidoreductase (deaminating) activity"
##                     "inositol-3,4-bisphosphate 4-phosphatase activity"
##                     "NADHX epimerase activity"
##                     "NADPHX epimerase activity"
##                     "all-trans-retinyl-palmitate hydrolase, 11-cis retinol forming activity"
##                     "all-trans-retinyl-ester hydrolase, 11-cis retinol forming activity"
##                     "CTP:tRNA cytidylyltransferase activity"
##                     "CTP:3'-cytidine-tRNA cytidylyltransferase activity"
##                     "ATP:3'-cytidine-cytidine-tRNA adenylyltransferase activity"
##                     "S-methylmethionine-homocysteine S-methyltransferase activity"
##                     "aspartic-type peptidase activity"
##                     "glutamic-type peptidase activity"
##                     "rRNA (uridine-N3-)-methyltransferase activity"
##                     "bicarbonate binding"
##                     "L-DOPA binding"
##                     "N-acetyl-L-aspartate-L-glutamate ligase activity"
##                     "eoxin A4 synthase activity"
##                     "monoamine oxidase activity"
##                     "mechanosensitived potassium channel activity"
##                     "estradiol binding"
##                     "histidine decarboxylase activity"
##                     "thromboxane-A synthase activity"
##                     "interleukin-11 receptor binding"
##                     "amine transmembrane transporter activity"
##                     "choline:sodium symporter activity"
##                     "purine nucleobase transmembrane transporter activity"
##                     "pyrimidine nucleobase transmembrane transporter activity"
##                     "CMP-N-acetylneuraminate transmembrane transporter activity"
##                     "tetracycline transmembrane transporter activity"
##                     "iodide transmembrane transporter activity"
##                     "glucose-6-phosphate transmembrane transporter activity"
##                     "polyol transmembrane transporter activity"
##                     "urea channel activity"
##                     "zinc-transporting ATPase activity"
##                     "N-sulfoglucosamine sulfohydrolase activity"
##                     "pheromone receptor activity"
##                     "hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds, in cyclic a
##                     "Intermediate conductance calcium-activated potassium channel activity"
##                     "CXCR4 chemokine receptor binding"
##                     "inositol pentakisphosphate 2-kinase activity"
##                     "12-hydroxyheptadecatrienoic acid synthase activity"
##                     "interleukin-18 binding"
##                     "interleukin-18 receptor activity"
##                     "GTP cyclohydrolase binding"
##                     "interleukin-22 receptor binding"
##                     "carboxylic acid transmembrane transporter activity"
##                     "cysteamine dioxygenase activity"
##                     "fatty acid peroxidase activity"
##                     "hydroxylysine kinase activity"
##                     "lactosylceramide 4-alpha-galactosyltransferase activity"
##                     "gamma-glutamylaminecyclotransferase activity"
##                     "ferritin receptor activity"
##                     "GDP-D-glucose phosphorylase activity"
```

```
##                    "polychlorinated biphenyl binding"
##                    "intracellular phosphatidylinositol-3,5-bisphosphate-sensitive cation channel activ
##                    "sphingosine N-acyltransferase activity"
##                    "thymine binding"
##                    "ADP-ribosylarginine hydrolase activity"
##                    "NAD+ nucleosidase activity"
##                    "bisphosphoglycerate 2-phosphatase activity"
##                    "glycolipid mannosyltransferase activity"
##                    "methylmalonyl-CoA epimerase activity"
##                    "neolactotetraosylceramide alpha-2,3-sialyltransferase activity"
##                    NA
##                    "norepinephrine:sodium symporter activity"
##                    "GDP-fucose transmembrane transporter activity"
##                    "UDP-xylose transmembrane transporter activity"
##                    "mannan endo-1,6-alpha-mannosidase activity"
##                    "NADPH dehydrogenase (quinone) activity"
##                    "methyl-CpNpG binding"
##                    "sialic acid:proton symporter activity"
##                    "phosphorus-oxygen lyase activity"
##                    "single-strand selective uracil DNA N-glycosylase activity"
##                    "interleukin-10 binding"
##                    "S-adenosylmethionine-dependent tRNA (m5U54) methyltransferase activity"
##                    "A2A adenosine receptor binding"
##                    "apolipoprotein A-I receptor activity"
##                    "interleukin-12 beta subunit binding"
##                    "lysophosphatidic acid acyltransferase activity"
##                    "interleukin-27 binding"
##                    "lactosylceramide alpha-2,3-sialyltransferase activity"
##                    "acyl-CoA hydrolase activity"
##                    "L-gulonate 3-dehydrogenase activity"
##                    "NAD(P)+ nucleosidase activity"
##                    "fucokinase activity"
##                    "metal ion:proton antiporter activity"
##                    "magnesium:sodium antiporter activity"
##                    "NAD+ nucleotidase, cyclic ADP-ribose generating"
##                    "dipeptide transmembrane transporter activity"
##                    "phosphatidylserine-translocating ATPase activity"
##                    "cholesterol dehydrogenase activity"
##                    "polyprenol reductase activity"
##                    "tRNA 4-demethylwyosine alpha-amino-alpha-carboxypropyltransferase activity"
##                    "tRNAPhe (7-(3-amino-3-carboxypropyl)wyosine37-C2)-hydroxylase activity"
##                    "palmitoleyl hydrolase activity"
##                    "tRNA demethylase activity"
##                    "proteasome binding"
##                    "allantoicase activity"
##                    "iodide peroxidase activity"
##                    "malate synthase activity"
##                    "methionyl-tRNA formyltransferase activity"
##                    "methylmalonyl-CoA decarboxylase activity"
##                    "monophenol monooxygenase activity"
##                    "ATP transmembrane transporter activity"
##                    "calcium, potassium:sodium antiporter activity"
##                    "alpha-1,6-mannosylglycoprotein 2-beta-N-acetylglucosaminyltransferase activity"
##                    "UDP-galactose:glucosylceramide beta-1,4-galactosyltransferase activity"
```

```
##                      "hexose transmembrane transporter activity"
##                      "L-threonine transmembrane transporter activity"
##                      "urea transmembrane transporter activity"
##                      "hexosaminidase activity"
##                      "linoleate 13S-lipoxygenase activity"
##                      "racemase and epimerase activity"
##                      "pyroglutamyl-peptidase activity"
##                      "voltage-gated proton channel activity"
##                      "guanidinoacetate N-methyltransferase activity"
##                      "sour taste receptor activity"
##                      "10-hydroxy-9-(phosphonooxy)octadecanoate phosphatase activity"
##                      "mannosyl-glycoprotein endo-beta-N-acetylglucosaminidase activity"
##                      "L-hydroxyproline transmembrane transporter activity"
##                      "GDP-4-dehydro-D-rhamnose reductase activity"
##                      "N-acylsphingosine galactosyltransferase activity"
##                      "L-phenylalanine:pyruvate aminotransferase activity"
##                      "glutamine-phenylpyruvate transaminase activity"
##                      "(3S)-citramalyl-CoA lyase activity"
##                      "GDP-mannose 3,5-epimerase activity"
##                      "L-glutamine:pyruvate aminotransferase activity"
##                      "GDP-L-fucose synthase activity"
##                      "1-acyl-2-lysophosphatidylserine acylhydrolase activity"
##                      "glucose 6-phosphate:inorganic phosphate antiporter activity"
##                      "GTP 3',8'-cyclase activity"
##                      "cyclic pyranopterin monophosphate synthase activity"
##                      "divalent inorganic cation transmembrane transporter activity"
##                      "temperature-gated cation channel activity"
##                      "Ac-Asp-Glu binding"
##                      "tetrahydrofolyl-poly(glutamate) polymer binding"
##                      "thiol-dependent ubiquitin-specific protease activity"
##                      "L-alanine:2-oxoglutarate aminotransferase activity"
##                      "interleukin-21 receptor activity"
##                      "4-hydroxyphenylpyruvate dioxygenase activity"
##                      "N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase activity"
##                      "aldose 1-epimerase activity"
##                      "orotate phosphoribosyltransferase activity"
##                      "orotidine-5'-phosphate decarboxylase activity"
##                      "ribulose-phosphate 3-epimerase activity"
##                      "glucose:sodium symporter activity"
##                      "prostaglandin-I synthase activity"
##                      "thiopurine S-methyltransferase activity"
##                      "N-acetylglucosamine-6-phosphate deacetylase activity"
##                      "sodium-dependent multivitamin transmembrane transporter activity"
##                      "sodium-independent organic anion transmembrane transporter activity"
##                      "thyroid hormone transmembrane transporter activity"
##                      "mannosidase activity"
##                      "D-ribulokinase activity"
##                      "guanylate cyclase regulator activity"
##                      "inositol-1,3,4,5,6-pentakisphosphate 3-phosphatase activity"
##                      "O-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase activity"
##                      "bisphosphoglycerate 3-phosphatase activity"
##                      "retinol transmembrane transporter activity"
##                      "RIG-I binding"
##                      "1-alkenylglycerophosphoethanolamine O-acyltransferase activity"
```

```
##                    "alpha-amino-acid esterase activity"
##                    "retinyl-palmitate esterase activity"
##                    "ribosylnicotinamide kinase activity"
##                    "phosphatidylserine 1-acylhydrolase activity"
##                    "inositol hexakisphosphate 2-phosphatase activity"
##                    "ribosylnicotinate kinase activity"
##                    "single-stranded DNA endodeoxyribonuclease activity"
##                    "2,4-dienoyl-CoA reductase (NADPH) activity"
##                    "aryldialkylphosphatase activity"
##                    "cytosine deaminase activity"
##                    "ribonuclease A activity"
##                    "phenylethanolamine N-methyltransferase activity"
##                    "phosphopantothenate--cysteine ligase activity"
##                    "uridine phosphorylase activity"
##                    "xanthine oxidase activity"
##                    "interleukin-13 receptor binding"
##                    "mechanosensitive ion channel activity"
##                    "cob(I)yrinic acid a,c-diamide adenosyltransferase activity"
##                    "molybdate ion transmembrane transporter activity"
##                    "fatty acid amide hydrolase activity"
##                    "wide pore channel activity"
##                    "CX3C chemokine receptor binding"
##                    "oxidative DNA demethylase activity"
##                    "cardiolipin hydrolase activity"
##                    "CXCR1 chemokine receptor binding"
##                    "interleukin-1 type I receptor antagonist activity"
##                    "interleukin-1 type II receptor antagonist activity"
##                    "metal ion transmembrane transporter activity"
##                    "hepoxilin-epoxide hydrolase activity"
##                    "cytosine C-5 DNA demethylase activity"
##                    "lipase activator activity"
##                    "gap junction channel activity involved in atrial cardiac muscle cell-AV node cell
##                    "gap junction channel activity involved in bundle of His cell-Purkinje myocyte ele
##                    "gap junction channel activity involved in Purkinje myocyte-ventricular cardiac mus
##                    "oleamide hydrolase activity"
##                    "anandamide amidohydrolase activity"
##                    "anti-Mullerian hormone receptor activity"
##                    "RNA N6-methyladenosine dioxygenase activity"
##                    "rRNA (pseudouridine) methyltransferase activity"
##                    "RNA polymerase III regulatory region DNA binding"
##                    "kynurenine 3-monooxygenase activity"
##                    "tryptophan 5-monooxygenase activity"
##                    "L-tyrosine:2-oxoglutarate aminotransferase activity"
##                    "interleukin-9 receptor binding"
##                    "sarcosine oxidase activity"
##                    "riboflavin kinase activity"
##                    "L-asparagine transmembrane transporter activity"
##                    "glycerol channel activity"
##                    "putrescine transmembrane transporter activity"
##                    "formate transmembrane transporter activity"
##                    "formate efflux transmembrane transporter activity"
##                    "HLA-A specific inhibitory MHC class I receptor activity"
##                    "ribonuclease T2 activity"
##                    "D-dopachrome decarboxylase activity"
```

```
##                  "thiamine phosphate phosphatase activity"
##                  "glycine N-acyltransferase activity"
##                  "glycine N-benzoyltransferase activity"
##                  "L-pipecolate oxidase activity"
##                  "malonyl-CoA decarboxylase activity"
##                  "sedoheptulokinase activity"
##                  "deoxyribonucleoside 5'-monophosphate N-glycosidase activity"
##                  "myosin VI binding"
##                  "rRNA (cytosine-N4-)-methyltransferase activity"
##                  "low-affinity L-arginine transmembrane transporter activity"
##                  "high-affinity L-ornithine transmembrane transporter activity"
##                  "calcium ion binding"
##                  "protein methyltransferase activity"
##                  "complement component C4b receptor activity"
##                  "acylphosphatase activity"
##                  "aldehyde oxidase activity"
##                  "cGMP-stimulated cyclic-nucleotide phosphodiesterase activity"
##                  "dihydrouracil dehydrogenase (NAD+) activity"
##                  "phosphatidylcholine-sterol O-acyltransferase activity"
##                  "complement component C3b receptor activity"
##                  "nucleoside transmembrane transporter activity"
##                  "thymidine phosphorylase activity"
##                  "pyrimidine-nucleoside phosphorylase activity"
##                  "interleukin-13 receptor activity"
##                  "dihydropyrimidine dehydrogenase (NADP+) activity"
##                  "immunoglobulin receptor activity"
##                  "tubulin N-acetyltransferase activity"
##                  "peptidyl-proline 3-dioxygenase activity"
##                  "thrombopoietin receptor activity"
##                  "glucoside transmembrane transporter activity"
##                  "glucose 1-dehydrogenase [NAD(P)] activity"
##                  "thiamin-triphosphatase activity"
##                  "sugar transmembrane transporter activity"
##                  "palmitoyl hydrolase activity"
##                  "geranial:oxygen oxidoreductase activity"
##                  "heptaldehyde:oxygen oxidoreductase activity"
##                  "phenanthrene-9,10-epoxide hydrolase activity"
##                  "leukemia inhibitory factor receptor binding"
##                  "nicotinamide N-methyltransferase activity"
##                  "CDP-diacylglycerol-glycerol-3-phosphate 3-phosphatidyltransferase activity"
##                  "UDP-sugar diphosphatase activity"
##                  "bis(5'-nucleosyl)-tetraphosphatase (symmetrical) activity"
##                  "photoreceptor activity"
##                  "NAD(P)H oxidase activity"
##                  "endodeoxyribonuclease activity, producing 3'-phosphomonoesters"
##                  "glycolipid transporter activity"
##                  "receptor regulator activity"
##                  "pyridine N-methyltransferase activity"
##                  "tetrahydrobiopterin binding"
##                  "small molecule binding"
##                  "NADPH:sulfur oxidoreductase activity"
##                  "omega-6 fatty acid desaturase activity"
##                  "omega-amidase activity"
##                  "methionine-R-sulfoxide reductase activity"
```

```
##                      "UFM1 hydrolase activity"
##                      "glycosylated region protein binding"
##                      "organic anion transmembrane transporter activity"
##                      "phenylalanine 4-monooxygenase activity"
##                      "basal RNA polymerase II transcription machinery binding"
##                      "ceramide phosphoethanolamine synthase activity"
##                      "3-oxo-5-alpha-steroid 4-dehydrogenase activity"
##                      "dihydroorotate dehydrogenase activity"
##                      "dolichol kinase activity"
##                      "mRNA (nucleoside-2'-O-)-methyltransferase activity"
##                      "glycoprotein endo-alpha-1,2-mannosidase activity"
##                      "thyroxine 5'-deiodinase activity"
##                      "interleukin-1, type II, blocking receptor activity"
##                      "alpha-1,3-mannosylglycoprotein 4-beta-N-acetylglucosaminyltransferase activity"
##                      "guanylate cyclase inhibitor activity"
##                      "type 1 cannabinoid receptor binding"
##                      "interleukin-28 receptor binding"
##                      "sphingomyelin synthase activity"
##                      "N6-isopentenyladenosine methylthiotransferase activity"
##                      "enterobactin transmembrane transporter activity"
##                      "N-acetylgalactosamine-6-sulfatase activity"
##                      "L-xylulose reductase (NAD+) activity"
##                      "glycerophosphocholine phosphodiesterase activity"
##                      "ceramide cholinephosphotransferase activity"
##                      "cholestenone 5-alpha-reductase activity"
##                      "glucose-1,6-bisphosphate synthase activity"
##                      "calcium- and calmodulin-regulated 3',5'-cyclic-GMP phosphodiesterase activity"
##                      "L-xylulose reductase (NADP+) activity"
##                      "beta-galactoside alpha-2,3-sialyltransferase activity"
##                      "protein-glutamic acid ligase activity"
##                      "calcium ion binding involved in regulation of postsynaptic cytosolic calcium ion
##                      "riboflavin binding"
##                      "glutaminase activity"
##                      "DNA nucleotidylexotransferase activity"
##                      "beta-mannosidase activity"
##                      "interleukin-7 receptor binding"
##                      "proline:sodium symporter activity"
##                      "monovalent cation:proton antiporter activity"
##                      "alpha-methylacyl-CoA racemase activity"
##                      "agmatinase activity"
##                      "lithium:proton antiporter activity"
##                      "organic cation transmembrane transporter activity"
##                      "cystine:glutamate antiporter activity"
##                      "endoribonuclease activity, producing 5'-phosphomonoesters"
##                      "HLA-A specific activating MHC class I receptor activity"
##                      "glutathione transmembrane transporter activity"
##                      "chylomicron binding"
##                      "oxidative RNA demethylase activity"
##                      "sphingolipid-translocating ATPase activity"
##                      "vitamin transmembrane transporter activity"
##                      "calcidiol binding"
##                      "phosphatidylinositol phosphate binding"
##                      "glucan 1,3-alpha-glucosidase activity"
##                      "protein phosphatase regulator activity"
```

```
##                      "adenine nucleotide transmembrane transporter activity"
##                      "uracil binding"
##                      "alpha-1,3-mannosylglycoprotein 2-beta-N-acetylglucosaminyltransferase activity"
##                      "acetylcholinesterase activity"
##                      "oncostatin-M receptor binding"
##                      "L-histidine transmembrane transporter activity"
##                      "proton-dependent oligopeptide secondary active transmembrane transporter activity"
##                      "low voltage-gated calcium channel activity"
##                      "cholesterol monooxygenase (side-chain-cleaving) activity"
##                      "chloride-transporting ATPase activity"
##                      "metallochaperone activity"
##                      "acid-thiol ligase activity"
##                      "HLA-B specific inhibitory MHC class I receptor activity"
##                      "riboflavin transmembrane transporter activity"
##                      "Fas-activated serine/threonine kinase activity"
##                      "FMN transmembrane transporter activity"
##                      "NAD transmembrane transporter activity"
##                      "phosphocholine phosphatase activity"
##                      "phosphoethanolamine phosphatase activity"
##                      "metallodipeptidase activity"
##                      "voltage-gated potassium channel activity involved in SA node cell action potential"
##                      "malonyl-CoA synthetase activity"
##                      "protein-L-isoaspartate (D-aspartate) O-methyltransferase activity"
##                      "all-trans retinal binding"
##                      "lysozyme activity"
##                      "phospholipase activity"
##                      "DNA-N1-methyladenine dioxygenase activity"
##                      "inositol hexakisphosphate 6-kinase activity"
##                      "dihydronicotinamide riboside quinone reductase activity"
##                      "N4-(beta-N-acetylglucosaminyl)-L-asparaginase activity"
##                      "glucose-6-phosphatase activity"
##                      "alpha-L-fucosidase activity"
##                      "sepiapterin reductase activity"
##                      "UDP-N-acetylglucosamine transmembrane transporter activity"
##                      "3'-nucleotidase activity"
##                      "single-stranded DNA exodeoxyribonuclease activity"
##                      "secondary active organic cation transmembrane transporter activity"
##                      "phosphopentomutase activity"
##                      "ADP transmembrane transporter activity"
##                      "coenzyme A transmembrane transporter activity"
##                      "cation:cation antiporter activity"
##                      "oxidoreductase activity, acting on other nitrogenous compounds as donors"
##                      "corticotropin hormone receptor binding"
##                      "type 5 melanocortin receptor binding"
##                      "zymogen binding"
##                      "interleukin-18 receptor binding"
##                      "betaine-homocysteine S-methyltransferase activity"
##                      "N-acylneuraminate-9-phosphatase activity"
##                      "ATPase regulator activity"
##                      "AMP transmembrane transporter activity"
##                      "melatonin binding"
##                      "resveratrol binding"
##                      "Roundabout binding"
##                      "protein phosphatase activator activity"
```

```
##                      "AP-3 adaptor complex binding"
##                      "phosphotransferase activity, for other substituted phosphate groups"
##                      "prenylcysteine oxidase activity"
##                      "peptide:proton symporter activity"
##                      "calcium:cation antiporter activity"
##                      "glycine:sodium symporter activity"
##                      "alpha-sialidase activity"
##                      "oligopeptide transmembrane transporter activity"
##                      "DNA end binding"
##                      "histamine N-methyltransferase activity"
##                      "glucosaminylgalactosylglucosylceramide beta-galactosyltransferase activity"
##                      "diphthine methylesterase activity"
##                      "ADP-D-ribose binding"
##                      "calcium:sodium antiporter activity involved in regulation of cardiac muscle cell
##                      "phosphoseryl-selenocysteinyl-tRNA selenium transferase activity"
##                      "ubiquitin-dependent protein binding"
##                      "GPI anchor binding"
##                      "brain-derived neurotrophic factor binding"
##                      "methenyltetrahydrofolate cyclohydrolase activity"
##                      "methylenetetrahydrofolate dehydrogenase (NAD+) activity"
##                      "methylenetetrahydrofolate dehydrogenase (NADP+) activity"
##                      "stem cell factor receptor binding"
##                      "(1->3)-beta-D-glucan binding"
##                      "choline kinase activity"
##                      "inositol-1,4-bisphosphate 1-phosphatase activity"
##                      "polyribonucleotide nucleotidyltransferase activity"
##                      "thiamine diphosphokinase activity"
##                      "xanthine dehydrogenase activity"
##                      "creatine transmembrane transporter activity"
##                      "creatine:sodium symporter activity"
##                      "ceramide glucosyltransferase activity"
##                      "carnitine O-octanoyltransferase activity"
##                      "protein-tyrosine sulfotransferase activity"
##                      "diuretic hormone activity"
##                      "cobalt ion transmembrane transporter activity"
##                      "lead ion transmembrane transporter activity"
##                      "nickel cation transmembrane transporter activity"
##                      "proton channel activity"
##                      "cobalamin-transporting ATPase activity"
##                      "linoleoyl-CoA desaturase activity"
##                      "hydroxymethyl-, formyl- and related transferase activity"
##                      "interleukin-3 binding"
##                      "thiamine binding"
##                      "riboflavin reductase (NADPH) activity"
##                      "host cell surface receptor binding"
##                      "inositol tetrakisphosphate 1-kinase activity"
##                      "amine sulfotransferase activity"
##                      "chondroitin-glucuronate 5-epimerase activity"
##                      "AF-2 domain binding"
##                      "granulocyte colony-stimulating factor binding"
##                      "inositol-1,3,4-trisphosphate 6-kinase activity"
##                      "inositol-1,3,4-trisphosphate 5-kinase activity"
##                      "inositol-1,3,4,5,6-pentakisphosphate 1-phosphatase activity"
##                      "inositol-1,3,4-trisphosphate 1-phosphatase activity"
```

```
##                      "inositol-1,3,4,6-tetrakisphosphate 6-phosphatase activity"
##                      "inositol-1,3,4,6-tetrakisphosphate 1-phosphatase activity"
##                      "inositol-3,4,6-trisphosphate 1-kinase activity"
##                      "iron channel activity"
##                      "protein histidine phosphatase activity"
##                      "dihydroceramide glucosyltransferase activity"
##                      "1-ethyladenine demethylase activity"
##                      "MAP kinase serine/threonine phosphatase activity"
##                      "phosphopantothenoylcysteine decarboxylase activity"
##                      "cation transmembrane transporter activity"
##                      "glycerate dehydrogenase activity"
##                      "hydroxypyruvate reductase activity"
##                      "hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds, in cyclic a
##                      "extracellularly glycine-gated ion channel activity"
##                      "thiol oxidase activity"
##                      "aspartate N-acetyltransferase activity"
##                      "glyoxylate reductase (NADP) activity"
##                      "[methionine synthase] reductase activity"
##                      "adenyl deoxyribonucleotide binding"
##                      "ADP-specific glucokinase activity"
##                      "aquacobalamin reductase (NADPH) activity"
##                      "temperature-gated ion channel activity"
##                      "intermembrane lipid transfer activity"
##                      "linoleate 9S-lipoxygenase activity"
##                      "preribosome binding"
##                      "G-quadruplex RNA binding"
##                      "heparan sulfate binding"
##                      "TFIID-class transcription factor complex binding"
##                      "protein tyrosine kinase activator activity"
##                      "4-aminobutyrate transaminase activity"
##                      "aromatic-L-amino-acid decarboxylase activity"
##                      "nucleotide diphosphatase activity"
##                      "interferon receptor activity"
##                      "serotonin:sodium symporter activity"
##                      "guanosine-5'-triphosphate,3'-diphosphate diphosphatase activity"
##                      "peptidoglycan glycosyltransferase activity"
##                      "pyrimidine nucleotide transmembrane transporter activity"
##                      "cation:chloride symporter activity"
##                      "lipoate synthase activity"
##                      "oxalate transmembrane transporter activity"
##                      "cocaine binding"
##                      "U4atac snRNA binding"
##                      "succinate-semialdehyde dehydrogenase binding"
##                      "4-aminobutyrate:2-oxoglutarate transaminase activity"
##                      "L-dopa decarboxylase activity"
##                      "gluconokinase activity"
##                      "(S)-3-amino-2-methylpropionate transaminase activity"
##                      "all-trans-retinol 13,14-reductase activity"
##                      "calcium ion binding involved in regulation of presynaptic cytosolic calcium ion co
##                      "DNA polymerase binding"
##                      "arachidonic acid omega-hydroxylase activity"
##                      "alpha-tocopherol omega-hydroxylase activity"
##                      "tocotrienol omega-hydroxylase activity"
##                      "myosin I binding"
```

```
##                     "3-hydroxybutyrate dehydrogenase activity"
##                     "dopamine beta-monooxygenase activity"
##                     "protein C-terminal S-isoprenylcysteine carboxyl O-methyltransferase activity"
##                     "complement receptor activity"
##                     "arginine transmembrane transporter activity"
##                     "L-lysine transmembrane transporter activity"
##                     "oxidoreductase activity, acting on paired donors, with incorporation or reduction
##                     "thiolester hydrolase activity"
##                     "proline racemase activity"
##                     "GTP diphosphatase activity"
##                     "H2A histone acetyltransferase activity"
##                     "2-hydroxy-adenosine triphosphate pyrophosphatase activity"
##                     "2-hydroxy-(deoxy)adenosine-triphosphate pyrophosphatase activity"
##                     "ATP diphosphatase activity"
##                     "methionine adenosyltransferase regulator activity"
##                     "trans-L-3-hydroxyproline dehydratase activity"
##                     "retinol binding"
##                     "phosphoprotein binding"
##                     "inositol phosphate phosphatase activity"
##                     "sodium channel regulator activity"
##                     "alpha-N-acetylneuraminate alpha-2,8-sialyltransferase activity"
##                     "manganese ion transmembrane transporter activity"
##                     "selenocysteine lyase activity"
##                     "cadmium ion transmembrane transporter activity"
##                     "sialic acid transmembrane transporter activity"
##                     "carnitine transmembrane transporter activity"
##                     "gamma-aminobutyric acid:proton symporter activity"
##                     "receptor signaling protein tyrosine kinase inhibitor activity"
##                     "transition metal ion transmembrane transporter activity"
##                     "2-hydroxyglutarate dehydrogenase activity"
##                     "serine-type aminopeptidase activity"
##                     "para-aminobenzoyl-glutamate hydrolase activity"
##                     "type 8 metabotropic glutamate receptor binding"
##                     "monoamine transmembrane transporter activity"
##                     "RNA polymerase III core binding"
##                     "N-acetylgalactosamine-4-sulfatase activity"
##                     "dCMP deaminase activity"
##                     "tubulin-tyrosine ligase activity"
##                     "peptidyl-dipeptidase activity"
##                     "8-oxo-7,8-dihydroguanosine triphosphate pyrophosphatase activity"
##                     "hydroxypyruvate isomerase activity"
##                     "acireductone dioxygenase [iron(II)-requiring] activity"
##                     "2-alkenal reductase [NAD(P)] activity"
##                     "hyaluronoglucuronidase activity"
##                     "8-oxo-7,8-dihydrodeoxyguanosine triphosphate pyrophosphatase activity"
##                     "ganglioside binding"
##                     "cholest-5-ene-3-beta,7-alpha-diol 3-beta-dehydrogenase activity"
##                     "cell adhesive protein binding involved in AV node cell-bundle of His cell communi
##                     "nitric-oxide synthase regulator activity"
##                     "deoxycytidine kinase activity"
##                     "methylmalonyl-CoA mutase activity"
##                     "taurine:sodium symporter activity"
##                     "fucosyltransferase activity"
##                     "protein-N-terminal asparagine amidohydrolase activity"
```

```
##                      "diphthine-ammonia ligase activity"
##                      "sphingolipid activator protein activity"
##                      "beta-N-acetylgalactosaminidase activity"
##                      "diphosphoinositol-pentakisphosphate kinase activity"
##                      "dolichyldiphosphatase activity"
##                      "5-diphosphoinositol pentakisphosphate 3-kinase activity"
##                      "pseudouridine 5'-phosphatase activity"
##                      "serine C-palmitoyltransferase activity"
##                      "sterol-transporting ATPase activity"
##                      "asialoglycoprotein receptor activity"
##                      "poly(C) RNA binding"
##                      "complement component C4b binding"
##                      "DNA topoisomerase type II (ATP-hydrolyzing) activity"
##                      "tyrosine 3-monooxygenase activity"
##                      "sulfinoalanine decarboxylase activity"
##                      "interleukin-10 receptor activity"
##                      "high-affinity inorganic phosphate:sodium symporter activity"
##                      "cytoskeletal regulatory protein binding"
##                      "glycoprotein 6-alpha-L-fucosyltransferase activity"
##                      "3'(2'),5'-bisphosphate nucleotidase activity"
##                      "guanine deaminase activity"
##                      "guanosine-3',5'-bis(diphosphate) 3'-diphosphatase activity"
##                      "calcium-dependent cysteine-type endopeptidase inhibitor activity"
##                      "quaternary ammonium group transmembrane transporter activity"
##                      "CoA hydrolase activity"
##                      "strictosidine synthase activity"
##                      "arginine deiminase activity"
##                      "pyrimidine deoxyribonucleotide binding"
##                      "hormone-sensitive lipase activity"
##                      "choloyl-CoA hydrolase activity"
##                      "adenosine-diphosphatase activity"
##                      "alpha-(1->6)-fucosyltransferase activity"
##                      "peptide-O-fucosyltransferase activity"
##                      "3-oxoacyl-[acyl-carrier-protein] reductase (NADH) activity"
##                      "dCTP diphosphatase activity"
##                      "ethanolamine-phosphate phospho-lyase activity"
##                      "neuropeptide receptor binding"
##                      "arachidonate 12-lipoxygenase activity"
##                      "galactosylceramidase activity"
##                      "glutathione synthase activity"
##                      "glycerate kinase activity"
##                      "glutamate-cysteine ligase catalytic subunit binding"
##                      "cysteine-S-conjugate N-acetyltransferase activity"
##                      "NEDD8 conjugating enzyme activity"
##                      "interleukin-33 binding"
##                      "amidase activity"
##                      "cholinesterase activity"
##                      "anion channel activity"
##                      "beta-galactosyl-N-acetylglucosaminylgalactosylglucosyl-ceramide beta-1,3-acetylglu
##                      "bilirubin transmembrane transporter activity"
##                      "acid-sensing ion channel activity"
##                      "acetylgalactosaminyl-O-glycosyl-glycoprotein beta-1,3-N-acetylglucosaminyltransfe
##                      "lactosylceramide 1,3-N-acetyl-beta-D-glucosaminyltransferase activity"
##                      "glycerophosphoinositol glycerophosphodiesterase activity"
```

```
##                         "microfibril binding"
##                         "dihydrosphingosine-1-phosphate phosphatase activity"
##                         "UFM1 transferase activity"
##                         "oxidoreductase activity, acting on paired donors, with incorporation or reduction
##                         "GPI-anchor transamidase activity"
##                         "manganese ion binding"
##                         "mRNA cap binding"
##                         "polymeric immunoglobulin receptor activity"
##                         "cerebroside-sulfatase activity"
##                         "deoxyribose-phosphate aldolase activity"
##                         "calcium-dependent cysteine-type endopeptidase activity"
##                         "Ral guanyl-nucleotide exchange factor activity"
##                         "small conductance calcium-activated potassium channel activity"
##                         "short-chain carboxylesterase activity"
##                         "protein-malonyllysine demalonylase activity"
##                         "protein-succinyllysine desuccinylase activity"
##                         "Ras palmitoyltransferase activity"
##                         "protein-glutaryllysine deglutarylase activity"
##                         "protein-glycine ligase activity, initiating"
##                         "gap junction channel activity involved in SA node cell-atrial cardiac muscle cell
##                         "gap junction channel activity involved in AV node cell-bundle of His cell electri
##                         "alpha-glucosidase activity"
##                         "calcium-dependent carbohydrate binding"
##                         "pseudophosphatase activity"
##                         "gamma-aminobutyric acid:sodium symporter activity"
##                         "tRNA (uracil) methyltransferase activity"
##                         "2,3-diketo-5-methylthiopentyl-1-phosphate enolase activity"
##                         "2-hydroxy-3-keto-5-methylthiopentenyl-1-phosphate phosphatase activity"
##                         "acireductone synthase activity"
##                         "nicotinamide phosphoribosyltransferase activity"
##                         "phytanoyl-CoA dioxygenase activity"
##                         "icosatetraenoic acid binding"
##                         "mannan binding"
##                         "15-hydroxyprostaglandin dehydrogenase (NADP+) activity"
##                         "prostaglandin-E2 9-reductase activity"
##                         "calmodulin-dependent cyclic-nucleotide phosphodiesterase activity"
##                         "hydroxymethylbilane synthase activity"
##                         "phosphomevalonate kinase activity"
##                         "sodium-exporting ATPase activity, phosphorylative mechanism"
##                         "exodeoxyribonuclease I activity"
##                         "canalicular bile acid transmembrane transporter activity"
##                         "hepoxilin A3 synthase activity"
##                         "raffinose alpha-galactosidase activity"
##                         "glutamate-ammonia ligase activity"
##                         "MHC class II protein binding, via antigen binding groove"
##                         "S-adenosyl-L-methionine transmembrane transporter activity"
##                         "acylglycerol O-acyltransferase activity"
##                         "lipid antigen binding"
##                         "hydroxyapatite binding"
##                         "[phosphorylase] phosphatase activity"
##                         "monocarboxylic acid transmembrane transporter activity"
##                         "glucuronyl-galactosyl-proteoglycan 4-alpha-N-acetylglucosaminyltransferase activi
##                         "leukotriene-C4 synthase activity"
##                         "alpha-N-acetylglucosaminidase activity"
```

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```
##                       "D4 dopamine receptor binding"
##                       "dihydrotestosterone 17-beta-dehydrogenase activity"
##                       "prostaglandin H2 endoperoxidase reductase activity"
##                       "prostaglandin D2 11-ketoreductase activity"
##                       "ketoreductase activity"
##                       "15-hydroxyprostaglandin-D dehydrogenase (NADP+) activity"
##                       "ciliary neurotrophic factor binding"
##                       "transcription factor activity, RNA polymerase II distal enhancer sequence-specific
##                       "nicotinate-nucleotide adenylyltransferase activity"
##                       "formate-tetrahydrofolate ligase activity"
##                       "volume-sensitive anion channel activity"
##                       "sulfiredoxin activity"
##                       "tRNA-4-demethylwyosine synthase activity"
##                       "protein-hormone receptor activity"
##                       "peptidylglycine monooxygenase activity"
##                       "peptidylamidoglycolate lyase activity"
##                       "cupric reductase activity"
##                       "glycine N-methyltransferase activity"
##                       "alpha-(1->3)-fucosyltransferase activity"
##                       "ferric-chelate reductase (NADPH) activity"
##                       "carnosine N-methyltransferase activity"
##                       "beta-galactoside alpha-2,6-sialyltransferase activity"
##                       "holo-[acyl-carrier-protein] synthase activity"
##                       "galactosylgalactosylglucosylceramide beta-D-acetylgalactosaminyltransferase activi
##                       "trimethyllysine dioxygenase activity"
##                       "glycogen binding"
##                       "polynucleotide 3'-phosphatase activity"
##                       "leukotriene-C(4) hydrolase"
##                       "ketohexokinase activity"
##                       "osmosensor activity"
##                       "Mo-molybdopterin cofactor sulfurase activity"
##                       "stretch-activated, cation-selective, calcium channel activity"
##                       "catechol O-methyltransferase activity"
##                       "MutLbeta complex binding"
##                       "MutSbeta complex binding"
##                       "UDP-glucosyltransferase activity"
##                       "adenine/guanine mispair binding"
##                       "galactosylxylosylprotein 3-beta-galactosyltransferase activity"
##                       "L-dopa O-methyltransferase activity"
##                       "molybdenum cofactor sulfurtransferase activity"
##                       "orcinol O-methyltransferase activity"
##                       "dolichyl pyrophosphate Glc2Man9GlcNAc2 alpha-1,2-glucosyltransferase activity"
##                       "NAADP-sensitive calcium-release channel activity"
##                       "phosphatidylinositol-4-phosphate phosphatase activity"
##                       "inositol 1,4,5 trisphosphate binding"
##                       "copper-exporting ATPase activity"
##                       "copper-transporting ATPase activity"
##                       "estrogen 16-alpha-hydroxylase activity"
##                       "UDP-N-acetylglucosamine-dolichyl-phosphate N-acetylglucosaminephosphotransferase a
##                       "UDP-galactose transmembrane transporter activity"
##                       "UDP-N-acetylglucosamine 2-epimerase activity"
##                       "phospho-N-acetylmuramoyl-pentapeptide-transferase activity"
##                       "N-acylmannosamine kinase activity"
##                       "myosin phosphatase regulator activity"
```

```
##                      "protein-disulfide reductase (glutathione) activity"
##                      "cholate-CoA ligase activity"
##                      "transforming growth factor beta receptor activity, type III"
##                      "G protein-coupled glutamate receptor binding"
##                      "NAD+ kinase activity"
##                      "lamin binding"
##                      "succinate-semialdehyde dehydrogenase (NAD+) activity"
##                      "uroporphyrinogen-III synthase activity"
##                      "succinate-semialdehyde dehydrogenase [NAD(P)+] activity"
##                      "choline transmembrane transporter activity"
##                      "tRNA (adenine-N6-)-methyltransferase activity"
##                      "diacylglycerol binding"
##                      "retinol O-fatty-acyltransferase activity"
##                      "inorganic anion exchanger activity"
##                      "Rap guanyl-nucleotide exchange factor activity"
##                      "gamma-butyrobetaine dioxygenase activity"
##                      "ferrous iron transmembrane transporter activity"
##                      "ICAM-3 receptor activity"
##                      "S-methyl-5-thioribose-1-phosphate isomerase activity"
##                      "dol-P-Man:Man(8)GlcNAc(2)-PP-Dol alpha-1,2-mannosyltransferase activity"
##                      "dol-P-Man:Man(6)GlcNAc(2)-PP-Dol alpha-1,2-mannosyltransferase activity"
##                      "3alpha,7alpha,12alpha-trihydroxy-5beta-cholestanoyl-CoA 24-hydroxylase activity"
##                      "NADH pyrophosphatase activity"
##                      "hypoxanthine phosphoribosyltransferase activity"
##                      "L-ornithine transmembrane transporter activity"
##                      "left-handed Z-DNA binding"
##                      "arachidonate 5-lipoxygenase activity"
##                      "extracellularly glutamate-gated chloride channel activity"
##                      "dCTP deaminase activity"
##                      "tRNA (cytosine) methyltransferase activity"
##                      "lipid phosphatase activity"
##                      "phosphoric ester hydrolase activity"
##                      "RNA polymerase core enzyme binding"
##                      "phosphatidylinositol deacylase activity"
##                      "epinephrine binding"
##                      "starch binding"
##                      "methylenetetrahydrofolate dehydrogenase [NAD(P)+] activity"
##                      "polynucleotide 5'-phosphatase activity"
##                      "phosphoglycerate dehydrogenase activity"
##                      "interleukin-1, type II receptor binding"
##                      "tRNA (cytosine-3-)-methyltransferase activity"
##                      "phytoceramidase activity"
##                      "tRNA 2'-O-methyltransferase activity"
##                      "phospholipase A2 activator activity"
##                      "6-phosphogluconolactonase activity"
##                      "K63-linked polyubiquitin modification-dependent protein binding"
##                      "mevalonate kinase activity"
##                      "interleukin-1 receptor antagonist activity"
##                      "calcium sensitive guanylate cyclase activator activity"
##                      "alkylglycerone-phosphate synthase activity"
##                      "ATPase activity, coupled to transmembrane movement of ions, phosphorylative mecha
##                      "15-hydroxyprostaglandin dehydrogenase (NAD+) activity"
##                      "fucose binding"
##                      "prostaglandin-F synthase activity"
```

```
##                      "deoxyribodipyrimidine photo-lyase activity"
##                      "DNA (6-4) photolyase activity"
##                      "blue light photoreceptor activity"
##                      "disulfide oxidoreductase activity"
##                      "endonuclease activity"
##                      "farnesylated protein binding"
##                      "proline dehydrogenase activity"
##                      "chloramphenicol O-acetyltransferase activity"
##                      "L-cystine transmembrane transporter activity"
##                      "glycerone-phosphate O-acyltransferase activity"
##                      "oxidoreductase activity, oxidizing metal ions, NAD or NADP as acceptor"
##                      "S-methyl-5-thioadenosine phosphorylase activity"
##                      "protein C-terminal leucine carboxyl O-methyltransferase activity"
##                      "1-alkenylglycerophosphocholine O-acyltransferase activity"
##                      "1-alkylglycerophosphocholine O-acyltransferase activity"
##                      "long-chain-alcohol O-fatty-acyltransferase activity"
##                      "protein-glycine ligase activity"
##                      "arachidoyl-CoA:1-dodecanol O-acyltransferase activity"
##                      "wax ester synthase activity"
##                      "protein heterodimerization activity"
##                      "kinase regulator activity"
##                      "phosphoenolpyruvate carboxykinase activity"
##                      "Sar guanyl-nucleotide exchange factor activity"
##                      "high-density lipoprotein particle receptor activity"
##                      "U12 snRNA binding"
##                      "alpha-mannosidase activity"
##                      "plus-end directed microfilament motor activity"
##                      "phospholipid-translocating ATPase activity"
##                      "biliverdin reductase activity"
##                      "heme-transporting ATPase activity"
##                      "malate dehydrogenase activity"
##                      "tRNA dihydrouridine synthase activity"
##                      "carbohydrate response element binding"
##                      "phosphatidylinositol-3,4-bisphosphate 3-phosphatase activity"
##                      "exo-alpha-(2->3)-sialidase activity"
##                      "exo-alpha-(2->6)-sialidase activity"
##                      "exo-alpha-(2->8)-sialidase activity"
##                      "integrin binding involved in cell-matrix adhesion"
##                      "phosphatidylinositol-4-phosphate binding"
##                      "histone demethylase activity (H4-K20 specific)"
##                      "amino acid:proton symporter activity"
##                      "NAD+ diphosphatase activity"
##                      "GDP-Man:Man3GlcNAc2-PP-Dol alpha-1,2-mannosyltransferase activity"
##                      "interferon-gamma receptor binding"
##                      "indoleamine 2,3-dioxygenase activity"
##                      "ceramide transporter activity"
##                      "phosphatidylethanolamine transporter activity"
##                      "squalene monooxygenase activity"
##                      "inositol-1,3,4,5-tetrakisphosphate 3-phosphatase activity"
##                      "hydroxymethylglutaryl-CoA reductase (NADPH) activity"
##                      "hydroxymethylglutaryl-CoA reductase activity"
##                      "iron-cytochrome-c reductase activity"
##                      "RNA polymerase II transcription coactivator activity involved in preinitiation co
##                      "alpha-1,2-mannosyltransferase activity"
```

```
##                       "lactoylglutathione lyase activity"
##                       "gamma-glutamyl carboxylase activity"
##                       "N-acylsphingosine amidohydrolase activity"
##                       "lithium ion binding"
##                       "ATP-dependent 5'-3' RNA helicase activity"
##                       "gamma-glutamyl-peptidase activity"
##                       "prosaposin receptor activity"
##                       "voltage-gated ion channel activity involved in regulation of presynaptic membrane
##                       "ceramidase activity"
##                       "macrophage colony-stimulating factor receptor binding"
##                       "histone methyltransferase activity (H3-K27 specific)"
##                       "Rab geranylgeranyltransferase activity"
##                       "latrotoxin receptor activity"
##                       "serine hydrolase activity"
##                       "EP4 subtype prostaglandin E2 receptor binding"
##                       "MHC class Ib receptor activity"
##                       "UDP-xylosyltransferase activity"
##                       "RNA uridylyltransferase activity"
##                       "phosphatidic acid transporter activity"
##                       "immunoglobulin binding"
##                       "thymidine kinase activity"
##                       "L-aminoadipate-semialdehyde dehydrogenase activity"
##                       "protein-arginine deiminase activity"
##                       "xylulokinase activity"
##                       "interleukin-10 receptor binding"
##                       "calcium-dependent protein kinase inhibitor activity"
##                       "betaine-aldehyde dehydrogenase activity"
##                       "inositol bisphosphate phosphatase activity"
##                       "phosphatidylinositol trisphosphate phosphatase activity"
##                       "inositol trisphosphate phosphatase activity"
##                       "advanced glycation end-product receptor activity"
##                       "structural constituent of presynaptic active zone"
##                       "advanced glycation end-product binding"
##                       "nitric oxide dioxygenase activity"
##                       "histone methyltransferase activity"
##                       "polysome binding"
##                       "MH1 domain binding"
##                       "Y-form DNA binding"
##                       "Lys48-specific deubiquitinase activity"
##                       "chitinase activity"
##                       "mannosyl-oligosaccharide 1,3-1,6-alpha-mannosidase activity"
##                       "prolactin receptor activity"
##                       NA
##                       "GDP-mannose 4,6-dehydratase activity"
##                       "sterol delta7 reductase activity"
##                       "[myelin basic protein]-arginine N-methyltransferase activity"
##                       "hydrolase activity, hydrolyzing N-glycosyl compounds"
##                       "glycine-gated chloride ion channel activity"
##                       "glucuronylgalactosylproteoglycan 4-beta-N-acetylgalactosaminyltransferase activity
##                       "7-dehydrocholesterol reductase activity"
##                       "ligand-gated calcium channel activity"
##                       "poly(U)-specific exoribonuclease activity, producing 3' uridine cyclic phosphate
##                       "thromboxane A2 receptor binding"
##                       "glycogen (starch) synthase activity"
```

```
##                     "glycogen synthase activity, transferring glucose-1-phosphate"
##                     "protein kinase regulator activity"
##                     "Pyrin domain binding"
##                     "peptidyl-dipeptidase inhibitor activity"
##                     "biotin-[acetyl-CoA-carboxylase] ligase activity"
##                     "biotin-[methylcrotonoyl-CoA-carboxylase] ligase activity"
##                     "biotin-[methylmalonyl-CoA-carboxytransferase] ligase activity"
##                     "biotin-[propionyl-CoA-carboxylase (ATP-hydrolyzing)] ligase activity"
##                     "natriuretic peptide receptor activity"
##                     "biotin-protein ligase activity"
##                     "N6-threonylcarbomyladenosine methylthiotransferase activity"
##                     "nucleoside triphosphate adenylate kinase activity"
##                     "heparosan-N-sulfate-glucuronate 5-epimerase activity"
##                     "tRNA (N(6)-L-threonylcarbamoyladenosine(37)-C(2))-methylthiotransferase"
##                     "acetylcholine receptor activity"
##                     "X11-like protein binding"
##                     "diamine N-acetyltransferase activity"
##                     "spermidine binding"
##                     "peptide receptor activity"
##                     "1-pyrroline-5-carboxylate dehydrogenase activity"
##                     "adenosylmethionine decarboxylase activity"
##                     "guanosine-diphosphatase activity"
##                     "guanylate cyclase activity"
##                     "myo-inositol:proton symporter activity"
##                     "chitin binding"
##                     "N-acetylglucosamine-6-sulfatase activity"
##                     "tRNA (guanine) methyltransferase activity"
##                     "putrescine binding"
##                     "(alpha-N-acetylneuraminyl-2,3-beta-galactosyl-1,3)-N-acetyl-galactosaminide 6-alph
##                     "NADP+ binding"
##                     "type I activin receptor binding"
##                     "ion antiporter activity involved in regulation of postsynaptic membrane potential"
##                     "mRNA (guanine-N7-)-methyltransferase activity"
##                     "peptide-aspartate beta-dioxygenase activity"
##                     "oxidative phosphorylation uncoupler activity"
##                     "aminobutyraldehyde dehydrogenase activity"
##                     "MAP kinase phosphatase activity"
##                     "1-pyrroline dehydrogenase activity"
##                     "phosphatidylinositol 3-kinase catalytic subunit binding"
##                     "4-trimethylammoniobutyraldehyde dehydrogenase activity"
##                     "inositol 5-diphosphate pentakisphosphate 5-kinase activity"
##                     "inositol diphosphate tetrakisphosphate kinase activity"
##                     "COPII adaptor activity"
##                     "DNA replication origin binding"
##                     "ferric iron binding"
##                     "oxidoreductase activity, acting on diphenols and related substances as donors"
##                     "flavonoid 3'-monooxygenase activity"
##                     "peptidase activator activity"
##                     "5'-deoxynucleotidase activity"
##                     "N-acetylglucosaminyldiphosphodolichol N-acetylglucosaminyltransferase activity"
##                     "dopamine:sodium symporter activity"
##                     "nucleoside-diphosphatase activity"
##                     "calmodulin-lysine N-methyltransferase activity"
##                     "dolichyl pyrophosphate Man9GlcNAc2 alpha-1,3-glucosyltransferase activity"
```

```
##                     "1-alkylglycerophosphocholine O-acetyltransferase activity"
##                     "tRNA dimethylallyltransferase activity"
##                     "methylselenol reductase activity"
##                     "methylseleninic acid reductase activity"
##                     "phosphoprotein phosphatase activity"
##                     "phosphatidylcholine transporter activity"
##                     "O-methyltransferase activity"
##                     "NAD+ synthase (glutamine-hydrolyzing) activity"
##                     "asparagine synthase (glutamine-hydrolyzing) activity"
##                     "dUTP diphosphatase activity"
##                     "glucosamine 6-phosphate N-acetyltransferase activity"
##                     "interleukin-12 receptor activity"
##                     "heparanase activity"
##                     "interleukin-17 receptor activity"
##                     "D-tyrosyl-tRNA(Tyr) deacylase activity"
##                     "fatty-acyl-CoA reductase (alcohol-forming) activity"
##                     "hypoglycin A gamma-glutamyl transpeptidase activity"
##                     "alcohol-forming fatty acyl-CoA reductase activity"
##                     "leukotriene C4 gamma-glutamyl transferase activity"
##                     "phosphatidylinositol-3,5-bisphosphate phosphatase activity"
##                     "acetyl-CoA hydrolase activity"
##                     "very-low-density lipoprotein particle receptor binding"
##                     "L-alanine transmembrane transporter activity"
##                     "soluble NSF attachment protein activity"
##                     "ISG15-specific protease activity"
##                     "interleukin-1 binding"
##                     "ribonuclease P RNA binding"
##                     "sphingomyelin phosphodiesterase D activity"
##                     "ligase regulator activity"
##                     "Arp2/3 complex binding"
##                     "nicotinate-nucleotide diphosphorylase (carboxylating) activity"
##                     "extracellular matrix protein binding"
##                     "FAD transmembrane transporter activity"
##                     "alpha-1,6-mannosylglycoprotein 6-beta-N-acetylglucosaminyltransferase activity"
##                     "D3 dopamine receptor binding"
##                     "olfactory receptor binding"
##                     "acetylgalactosaminyl-O-glycosyl-glycoprotein beta-1,6-N-acetylglucosaminyltransfe
##                     "glycine N-choloyltransferase activity"
##                     "CP2 mannose-ethanolamine phosphotransferase activity"
##                     "very long chain acyl-CoA hydrolase activity"
##                     "crotonyl-CoA hydratase activity"
##                     "NADPH binding"
##                     "PDZ domain binding"
##                     "cytidylate kinase activity"
##                     "methylenetetrahydrofolate reductase (NAD(P)H) activity"
##                     "pantetheine-phosphate adenylyltransferase activity"
##                     "ribokinase activity"
##                     "extracellularly glutamate-gated ion channel activity"
##                     "sodium:bicarbonate symporter activity"
##                     "IgE receptor activity"
##                     "BRE binding"
##                     "L-proline transmembrane transporter activity"
##                     "ubiquitin-like protein binding"
##                     "RNA-dependent ATPase activity"
```

```
##                     "3-hydroxyanthranilate 3,4-dioxygenase activity"
##                     "GDP-Man:Man1GlcNAc2-PP-Dol alpha-1,3-mannosyltransferase activity"
##                     "poly(ADP-ribose) glycohydrolase activity"
##                     "vitamin E binding"
##                     "ISG15 activating enzyme activity"
##                     "interleukin-12 alpha subunit binding"
##                     "intronic transcription regulatory region DNA binding"
##                     "GDP-Man:Man2GlcNAc2-PP-dolichol alpha-1,6-mannosyltransferase activity"
##                     "N6-(1,2-dicarboxyethyl)AMP AMP-lyase (fumarate-forming) activity"
##                     "(S)-2-(5-amino-1-(5-phospho-D-ribosyl)imidazole-4-carboxamido)succinate AMP-lyase
##                     "epidermal growth factor binding"
##                     "four-way junction DNA binding"
##                     "cysteine-type endopeptidase activity involved in apoptotic signaling pathway"
##                     "6-pyruvoyltetrahydropterin synthase activity"
##                     "arachidonate 15-lipoxygenase activity"
##                     "pristanoyl-CoA oxidase activity"
##                     "RNA methyltransferase activity"
##                     "peptidyltransferase activity"
##                     "RNA-3'-phosphate cyclase activity"
##                     "arylamine N-acetyltransferase activity"
##                     "N-acyltransferase activity"
##                     "glutathione hydrolase activity"
##                     "activin receptor antagonist activity"
##                     "N-acylneuraminate-9-phosphate synthase activity"
##                     "N-acetylneuraminate synthase activity"
##                     "delayed rectifier potassium channel activity"
##                     "protein C-terminal carboxyl O-methyltransferase activity"
##                     "prostaglandin-endoperoxide synthase activity"
##                     "L-ascorbate:sodium symporter activity"
##                     "nucleobase transmembrane transporter activity"
##                     "L-ascorbic acid transmembrane transporter activity"
##                     "glucosyltransferase activity"
##                     "AF-1 domain binding"
##                     "glutathione specific gamma-glutamylcyclotransferase activity"
##                     "sodium-dependent L-ascorbate transmembrane transporter activity"
##                     "translation termination factor activity"
##                     "translation release factor activity, codon specific"
##                     "Rac guanyl-nucleotide exchange factor activity"
##                     "Edg-2 lysophosphatidic acid receptor binding"
##                     "prenyltransferase activity"
##                     "selenide, water dikinase activity"
##                     "ornithine decarboxylase inhibitor activity"
##                     "oxidoreductase activity, acting on the CH-NH2 group of donors, oxygen as acceptor
##                     "formaldehyde dehydrogenase activity"
##                     "nitric-oxide synthase inhibitor activity"
##                     "interleukin-27 receptor binding"
##                     "cholestenol delta-isomerase activity"
##                     "S-(hydroxymethyl)glutathione dehydrogenase activity"
##                     "glutamate binding"
##                     "ceramide binding"
##                     "potassium channel regulator activity"
##                     "neurotensin receptor activity, non-G protein-coupled"
##                     "lanosterol synthase activity"
##                     "phosphoacetylglucosamine mutase activity"
```

```
##                     "acetylcholine receptor inhibitor activity"
##                     "enzyme activator activity"
##                     "cGMP binding"
##                     "NAD-dependent histone deacetylase activity"
##                     "phospholipid binding"
##                     "protein serine/threonine phosphatase inhibitor activity"
##                     "peptidase activity"
##                     "phosphatidyl-N-methylethanolamine N-methyltransferase activity"
##                     "phosphatidylethanolamine N-methyltransferase activity"
##                     "interleukin-1, type I, activating receptor activity"
##                     "5-oxoprolinase (ATP-hydrolyzing) activity"
##                     "interleukin-20 binding"
##                     "SET domain binding"
##                     "phosphatidyl-N-dimethylethanolamine N-methyltransferase activity"
##                     "ganglioside GM2 binding"
##                     "ganglioside GM3 binding"
##                     "ganglioside GP1c binding"
##                     "calcium-release channel activity"
##                     "calcium- and calmodulin-responsive adenylate cyclase activity"
##                     "farnesyltranstransferase activity"
##                     "phosphoribosylaminoimidazole carboxylase activity"
##                     "phosphoribosylaminoimidazolesuccinocarboxamide synthase activity"
##                     "dynein intermediate chain binding"
##                     "phosphatidylinositol phosphate 4-phosphatase activity"
##                     "CD27 receptor binding"
##                     "iron-responsive element binding"
##                     "sphingosine-1-phosphate phosphatase activity"
##                     "3alpha,7alpha,12alpha-trihydroxy-5beta-cholest-24-enoyl-CoA hydratase activity"
##                     "17-beta-hydroxysteroid dehydrogenase (NAD+) activity"
##                     "arginine binding"
##                     "mitogen-activated protein kinase p38 binding"
##                     "mannosyl-oligosaccharide 1,2-alpha-mannosidase activity"
##                     "tetrahydrofolylpolyglutamate synthase activity"
##                     "steroid delta-isomerase activity"
##                     "C-rich strand telomeric DNA binding"
##                     "tyrosine binding"
##                     "voltage-gated ion channel activity involved in regulation of postsynaptic membran
##                     "alkane 1-monooxygenase activity"
##                     "coreceptor activity involved in Wnt signaling pathway, planar cell polarity pathwa
##                     "telomerase RNA reverse transcriptase activity"
##                     "template-free RNA nucleotidyltransferase"
##                     "virus receptor activity"
##                     "glutamate-gated calcium ion channel activity"
##                     "exoribonuclease activity, producing 5'-phosphomonoesters"
##                     "histone kinase activity (H3-S10 specific)"
##                     "xenobiotic transmembrane transporter activity"
##                     "interleukin-23 receptor binding"
##                     "3'-phosphoadenosine 5'-phosphosulfate transmembrane transporter activity"
##                     "volume-sensitive chloride channel activity"
##                     "histone kinase activity (H3-T3 specific)"
##                     "voltage-gated potassium channel activity involved in bundle of His cell action pot
##                     "voltage-gated potassium channel activity involved in SA node cell action potential
##                     "extracellularly glycine-gated chloride channel activity"
##                     "VEGF-C-activated receptor activity"
```

```
##                     "glutamate decarboxylase activity"
##                     "myosin-light-chain-phosphatase activity"
##                     "RNA-directed DNA polymerase activity"
##                     "RNA polymerase III activity"
##                     "protein binding involved in negative regulation of telomere maintenance via telome
##                     "carboxylic ester hydrolase activity"
##                     "L-iditol 2-dehydrogenase activity"
##                     "UDP-glucose 6-dehydrogenase activity"
##                     "alpha,alpha-trehalase activity"
##                     "prostaglandin-D synthase activity"
##                     "hepatocyte growth factor receptor binding"
##                     "sphingolipid delta-4 desaturase activity"
##                     "histone acetyltransferase activity (H3-K23 specific)"
##                     "D-xylulose reductase activity"
##                     "ubiquitin-protein transferase inhibitor activity"
##                     "[hydroxymethylglutaryl-CoA reductase (NADPH)] kinase activity"
##                     "[acetyl-CoA carboxylase] kinase activity"
##                     "sphingomyelin phosphodiesterase activity"
##                     "purinergic nucleotide receptor activity"
##                     "cysteine-tRNA ligase activity"
##                     "extracellularly ATP-gated cation channel activity"
##                     "racemase and epimerase activity, acting on carbohydrates and derivatives"
##                     "GABA receptor activity"
##                     "MHC class Ib protein binding, via antigen binding groove"
##                     "acetylcholine receptor regulator activity"
##                     "SAM domain binding"
##                     "ATP-gated ion channel activity"
##                     "triacyl lipopeptide binding"
##                     "uridine-diphosphatase activity"
##                     "mannose-ethanolamine phosphotransferase activity"
##                     "voltage-gated calcium channel activity involved SA node cell action potential"
##                     "first spliceosomal transesterification activity"
##                     "ferric-chelate reductase activity"
##                     "ADP-sugar diphosphatase activity"
##                     "thyroid hormone receptor coactivator activity"
##                     "SUMO transferase activity"
##                     "1-phosphatidylinositol-3-phosphate 4-kinase activity"
##                     "iduronate-2-sulfatase activity"
##                     "myosin II head/neck binding"
##                     "pyridoxal phosphatase activity"
##                     "ATP-dependent NAD(P)H-hydrate dehydratase activity"
##                     "ADP-dependent NAD(P)H-hydrate dehydratase activity"
##                     "MADS box domain binding"
##                     "inositol-1,3,4,5,6-pentakisphosphate kinase activity"
##                     "inositol hexakisphosphate kinase activity"
##                     "inositol heptakisphosphate kinase activity"
##                     "inositol hexakisphosphate 5-kinase activity"
##                     "cGMP-inhibited cyclic-nucleotide phosphodiesterase activity"
##                     "dolichyl-phosphate beta-glucosyltransferase activity"
##                     "transferase activity, transferring hexosyl groups"
##                     "VEGF-A-activated receptor activity"
##                     "VEGF-B-activated receptor activity"
##                     "placental growth factor-activated receptor activity"
##                     "inositol hexakisphosphate 1-kinase activity"
```

```
##                    "inositol hexakisphosphate 3-kinase activity"
##                    "ganglioside GM1 binding"
##                    "protein O-GlcNAc transferase activity"
##                    "RNA polymerase II transcription corepressor binding"
##                    "copper ion transmembrane transporter activity"
##                    "acid-amino acid ligase activity"
##                    "adenosine receptor binding"
##                    "protein tyrosine phosphatase activator activity"
##                    "interleukin-23 binding"
##                    "interleukin-23 receptor activity"
##                    "sodium:proton antiporter activity involved in regulation of cardiac muscle cell me
##                    "demethylase activity"
##                    "inositol hexakisphosphate binding"
##                    "metal chelating activity"
##                    "glycerol-1-phosphatase activity"
##                    "copper-dependent protein binding"
##                    "glycerol-3-phosphatase activity"
##                    "U6atac snRNA binding"
##                    "TAP2 binding"
##                    "dihydropyrimidinase activity"
##                    "UDP-N-acetylglucosamine diphosphorylase activity"
##                    "calcium-dependent protein serine/threonine phosphatase regulator activity"
##                    "ribonuclease E activity"
##                    "aminophospholipid transmembrane transporter activity"
##                    "kappa-type opioid receptor binding"
##                    "MHC class I receptor activity"
##                    "tapasin binding"
##                    "deoxycytidine deaminase activity"
##                    "lysophospholipid acyltransferase activity"
##                    "DNA clamp unloader activity"
##                    "diacylglycerol O-acyltransferase activity"
##                    "ethanolamine kinase activity"
##                    "leptin receptor activity"
##                    "MHC class II protein binding"
##                    "suramin binding"
##                    "8-oxo-GDP phosphatase activity"
##                    "8-hydroxy-dADP phosphatase activity"
##                    "xylosylprotein 4-beta-galactosyltransferase activity"
##                    "phytanate-CoA ligase activity"
##                    "pristanate-CoA ligase activity"
##                    "toxic substance binding"
##                    "sodium channel inhibitor activity"
##                    "ubiquitin-like protein ligase binding"
##                    "calcium:sodium antiporter activity"
##                    "ADP-ribose diphosphatase activity"
##                    "methionine-tRNA ligase activity"
##                    "interleukin-33 receptor activity"
##                    "methylthioribulose 1-phosphate dehydratase activity"
##                    "medium-chain acyl-CoA hydrolase activity"
##                    "long-chain acyl-CoA hydrolase activity"
##                    "hemoglobin binding"
##                    "glycoprotein transporter activity"
##                    "acyl-CoA oxidase activity"
##                    "folic acid binding"
```

```
##                         "gamma-glutamylcyclotransferase activity"
##                         "2',3'-cyclic-nucleotide 3'-phosphodiesterase activity"
##                         "histone pre-mRNA stem-loop binding"
##                         "epoxide hydrolase activity"
##                         "hydrolase activity, hydrolyzing O-glycosyl compounds"
##                         "transposase activity"
##                         "rRNA methyltransferase activity"
##                         "low-affinity IgG receptor activity"
##                         "type I interferon binding"
##                         "lipoteichoic acid receptor activity"
##                         "oxidised low-density lipoprotein particle receptor activity"
##                         "histone-glutamine methyltransferase activity"
##                         "long-chain-alcohol oxidase activity"
##                         "long-chain-aldehyde dehydrogenase activity"
##                         "medium-chain-aldehyde dehydrogenase activity"
##                         "leukotriene-B4 20-monooxygenase activity"
##                         "sterol 14-demethylase activity"
##                         "phospholipid-hydroperoxide glutathione peroxidase activity"
##                         "voltage-gated sodium channel activity involved in AV node cell action potential"
##                         "voltage-gated sodium channel activity involved in bundle of His cell action poten
##                         "voltage-gated sodium channel activity involved in SA node cell action potential"
##                         "RNA polymerase I activity"
##                         "tRNA-intron endonuclease activity"
##                         "catalytic activity"
##                         "neurotrophin TRKB receptor binding"
##                         "neurotrophin TRKC receptor binding"
##                         "acrosin binding"
##                         "3R-hydroxyacyl-CoA dehydratase activity"
##                         "small protein activating enzyme binding"
##                         "MIT domain binding"
##                         "potassium:proton exchanging ATPase activity"
##                         "NAD-dependent histone deacetylase activity (H4-K16 specific)"
##                         "N-terminal protein N-methyltransferase activity"
##                         "erythropoietin receptor activity"
##                         "FAT10 activating enzyme activity"
##                         "somatostatin receptor binding"
##                         "kynurenine-glyoxylate transaminase activity"
##                         "interleukin-1 receptor binding"
##                         "phosphatidylinositol-3,5-bisphosphate binding"
##                         "farnesyl-diphosphate farnesyltransferase activity"
##                         "protein geranylgeranyltransferase activity"
##                         "CAAX-protein geranylgeranyltransferase activity"
##                         "squalene synthase activity"
##                         "phosphodiesterase decapping endonuclease activity"
##                         "NEDD8 transferase activity"
##                         "MHC class I protein complex binding"
##                         "dolichyl-phosphate-glucose-glycolipid alpha-glucosyltransferase activity"
##                         "3-mercaptopyruvate sulfurtransferase activity"
##                         "ubiquitin-specific protease activity involved in negative regulation of ERAD path
##                         "20-hydroxy-leukotriene B4 omega oxidase activity"
##                         "20-aldehyde-leukotriene B4 20-monooxygenase activity"
##                         "disaccharide binding"
##                         "deoxyribonuclease II activity"
##                         "ribose-5-phosphate isomerase activity"
```

```
##                    "granulocyte macrophage colony-stimulating factor receptor binding"
##                    "sodium:phosphate symporter activity"
##                    "sodium:potassium:chloride symporter activity"
##                    "N-acylneuraminate cytidylyltransferase activity"
##                    "cardiolipin synthase activity"
##                    "sodium:chloride symporter activity"
##                    "URM1 activating enzyme activity"
##                    "CDP-diacylglycerol-phosphatidylglycerol phosphatidyltransferase activity"
##                    "molybdopterin-synthase sulfurtransferase activity"
##                    "molybdopterin-synthase adenylyltransferase activity"
##                    "translation elongation factor binding"
##                    "arylsulfatase activity"
##                    "acetylpyruvate hydrolase activity"
##                    "deoxyhypusine synthase activity"
##                    "fumarylpyruvate hydrolase activity"
##                    "acylpyruvate hydrolase activity"
##                    "lipoprotein lipase activator activity"
##                    "type I transforming growth factor beta receptor binding"
##                    "ubiquitin-like protein conjugating enzyme binding"
##                    "2-acylglycerol O-acyltransferase activity"
##                    "dihydrofolate reductase activity"
##                    "folate reductase activity"
##                    "alpha-N-acetylgalactosaminide alpha-2,6-sialyltransferase activity"
##                    "sodium:inorganic phosphate symporter activity"
##                    "glutaminyl-peptide cyclotransferase activity"
##                    "cysteine-S-conjugate beta-lyase activity"
##                    "phosphatidylglycerol binding"
##                    "triglyceride binding"
##                    "chenodeoxycholic acid binding"
##                    "actinin binding"
##                    "nitric oxide transmembrane transporter activity"
##                    "carbon dioxide transmembrane transporter activity"
##                    "transcription factor activity, RNA polymerase II core promoter sequence-specific b
##                    "purine-nucleoside phosphorylase activity"
##                    "pyridoxal kinase activity"
##                    "long-chain-enoyl-CoA hydratase activity"
##                    "N-acetyllactosamine synthase activity"
##                    "cysteine-type endopeptidase activity involved in apoptotic process"
##                    "haptoglobin binding"
##                    "cadmium ion binding"
##                    "deoxyribonuclease I activity"
##                    "peptidyl-proline dioxygenase activity"
##                    "collagen receptor activity"
##                    "rhodopsin kinase activity"
##                    "dol-P-Man:Man(5)GlcNAc(2)-PP-Dol alpha-1,3-mannosyltransferase activity"
##                    "protein N-acetylglucosaminyltransferase activity"
##                    "Formylglycine-generating oxidase activity"
##                    "galactoside binding"
##                    "2'-5'-oligoadenylate synthetase activity"
##                    "metalloendopeptidase inhibitor activity"
##                    "peptide-N4-(N-acetyl-beta-glucosaminyl)asparagine amidase activity"
##                    "alpha-N-acetylgalactosaminidase activity"
##                    "DNA 5'-adenosine monophosphate hydrolase activity"
##                    "DNA-3'-diphospho-5'-guanosine diphosphatase"
```

```
##                     "single-strand break-containing DNA binding"
##                     "interferon-gamma receptor activity"
##                     "oxidoreductase activity, oxidizing metal ions"
##                     "hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds, in linear a
##                     "acetylcholine-gated cation-selective channel activity"
##                     "type II activin receptor binding"
##                     "1-phosphatidylinositol 4-kinase activity"
##                     "glycerol transmembrane transporter activity"
##                     "MutSalpha complex binding"
##                     "1-phosphatidylinositol-4-phosphate 3-kinase activity"
##                     "RNA polymerase III type 1 promoter sequence-specific DNA binding"
##                     "RNA polymerase III type 2 promoter sequence-specific DNA binding"
##                     "NACHT domain binding"
##                     "voltage-gated sodium channel activity involved in Purkinje myocyte action potentia
##                     "aryl hydrocarbon receptor activity"
##                     "chromatin insulator sequence binding"
##                     "bile-salt sulfotransferase activity"
##                     "methylcytosine dioxygenase activity"
##                     "collagen V binding"
##                     "nucleoside monophosphate kinase activity"
##                     "UDP-N-acetylglucosamine-lysosomal-enzyme N-acetylglucosaminephosphotransferase ac
##                     "interleukin-11 receptor activity"
##                     "N-acetyllactosaminide beta-1,6-N-acetylglucosaminyltransferase activity"
##                     "interleukin-11 binding"
##                     "structural constituent of presynapse"
##                     "G/U mismatch-specific uracil-DNA glycosylase activity"
##                     "histone methyltransferase activity (H3-R2 specific)"
##                     "histone methyltransferase activity (H2A-R3 specific)"
##                     "phospholipid scramblase activity"
##                     "phospholipase D activity"
##                     "histone methyltransferase activity (H3-K79 specific)"
##                     "cGMP-dependent protein kinase activity"
##                     "peptidyl-histidine dioxygenase activity"
##                     "peptidyl-asparagine 3-dioxygenase activity"
##                     "N-acetylglucosamine kinase activity"
##                     "hypoxia-inducible factor-asparagine oxygenase activity"
##                     "EH domain binding"
##                     "water transmembrane transporter activity"
##                     "beta-N-acetylglucosaminidase activity"
##                     "[protein]-3-O-(N-acetyl-D-glucosaminyl)-L-threonine O-N-acetyl-alpha-D-glucosamina
##                     "[protein]-3-O-(N-acetyl-D-glucosaminyl)-L-serine O-N-acetyl-alpha-D-glucosaminase
##                     "[protein]-3-O-(N-acetyl-D-glucosaminyl)-L-serine/L-threonine O-N-acetyl-alpha-D-gl
##                     "DNA hairpin binding"
##                     "interleukin-27 receptor activity"
##                     "signaling pattern recognition receptor activity"
##                     "retinol dehydrogenase activity"
##                     "oxygen carrier activity"
##                     "tyrosine-tRNA ligase activity"
##                     "deoxycytidyl transferase activity"
##                     "syntaxin-3 binding"
##                     "cholesterol 24-hydroxylase activity"
##                     "glucose-6-phosphate dehydrogenase activity"
##                     "progesterone receptor binding"
##                     "phosphatidylinositol-3-phosphatase activity"
```

```
##                     "CARD domain binding"
##                     "activin receptor binding"
##                     "activin receptor activity, type II"
##                     "L27 domain binding"
##                     "ATP-dependent 5'-3' DNA/RNA helicase activity"
##                     "proteoglycan binding"
##                     "acylglycerol lipase activity"
##                     "L-tryptophan transmembrane transporter activity"
##                     "GDP-dissociation inhibitor binding"
##                     "platelet-derived growth factor-activated receptor activity"
##                     "poly-glutamine tract binding"
##                     "myosin light chain kinase activity"
##                     "protein tyrosine/threonine phosphatase activity"
##                     "Atg12 activating enzyme activity"
##                     "Atg8 activating enzyme activity"
##                     "potassium ion transmembrane transporter activity"
##                     "death receptor binding"
##                     "voltage-gated calcium channel activity involved in bundle of His cell action poten
##                     "DH domain binding"
##                     "HNK-1 sulfotransferase activity"
##                     "nucleosome binding"
##                     "cyclin-dependent protein serine/threonine kinase activator activity"
##                     "polyprenyltransferase activity"
##                     "single-stranded DNA-dependent ATP-dependent DNA helicase activity"
##                     "steroid 21-monooxygenase activity"
##                     "glutamate 5-kinase activity"
##                     "glutamate-5-semialdehyde dehydrogenase activity"
##                     "delta1-pyrroline-5-carboxylate synthetase activity"
##                     "protein binding involved in heterotypic cell-cell adhesion"
##                     "sterol 12-alpha-hydroxylase activity"
##                     "25-hydroxycholecalciferol-24-hydroxylase activity"
##                     "1-alpha,25-dihydroxyvitamin D3 24-hydroxylase activity"
##                     "7alpha-hydroxycholest-4-en-3-one 12alpha-hydroxylase activity"
##                     "1-acylglycerophosphocholine O-acyltransferase activity"
##                     "N-acylphosphatidylethanolamine-specific phospholipase D activity"
##                     "JAK pathway signal transduction adaptor activity"
##                     "myristoyl-CoA hydrolase activity"
##                     "sialate O-acetylesterase activity"
##                     "tripeptidyl-peptidase activity"
##                     "ErbB-2 class receptor binding"
##                     "transmembrane receptor protein serine/threonine kinase activity"
##                     "water channel activity"
##                     "steroid 7-alpha-hydroxylase activity"
##                     "voltage-gated cation channel activity"
##                     "TAP1 binding"
##                     "G-rich single-stranded DNA binding"
##                     "odorant binding"
##                     "collagen binding involved in cell-matrix adhesion"
##                     "fluorene oxygenase activity"
##                     "lactose synthase activity"
##                     "glycogenin glucosyltransferase activity"
##                     "UDP-alpha-D-glucose:glucosyl-glycogenin alpha-D-glucosyltransferase activity"
##                     "chondroitin sulfate proteoglycan binding"
##                     "beta-adrenergic receptor kinase activity"
```

```
##                         "neuregulin binding"
##                         "sodium-dependent phosphate transmembrane transporter activity"
##                         "calcium-dependent protein serine/threonine kinase activity"
##                         "protein xylosyltransferase activity"
##                         "[heparan sulfate]-glucosamine 3-sulfotransferase 2 activity"
##                         "oxidized DNA binding"
##                         "interferon-gamma binding"
##                         "UDP-galactosyltransferase activity"
##                         "monosialoganglioside sialyltransferase activity"
##                         "N-box binding"
##                         "macrophage colony-stimulating factor receptor activity"
##                         "metalloexopeptidase activity"
##                         "tRNA (guanine-N7-)-methyltransferase activity"
##                         "interleukin-4 receptor binding"
##                         "MAP kinase kinase kinase kinase activity"
##                         "telomeric repeat-containing RNA binding"
##                         "all-trans retinol 3,4-desaturase activity"
##                         "all-trans retinal 3,4-desaturase activity"
##                         "all-trans retinoic acid 3,4-desaturase activity"
##                         "11-cis-retinal 3,4-desaturase activity"
##                         "tubulin-glutamic acid ligase activity"
##                         "1,4-alpha-glucan branching enzyme activity"
##                         "1,4-alpha-glucan branching enzyme activity (using a glucosylated glycogenin as pri
##                         "diphosphomevalonate decarboxylase activity"
##                         "cyclin-dependent protein kinase activity"
##                         "troponin I binding"
##                         "lysine N-methyltransferase activity"
##                         "keratan sulfotransferase activity"
##                         "growth hormone receptor activity"
##                         "histone acetyltransferase activity (H4-K12 specific)"
##                         "histone succinyltransferase activity"
##                         "N-acetylgalactosamine 4-sulfate 6-O-sulfotransferase activity"
##                         "arylesterase activity"
##                         "platelet-derived growth factor beta-receptor activity"
##                         "box H/ACA snoRNA binding"
##                         "ammonium transmembrane transporter activity"
##                         "polynucleotide 5'-hydroxyl-kinase activity"
##                         "8-oxo-dGDP phosphatase activity"
##                         "neurotransmitter:sodium symporter activity"
##                         "dopamine receptor binding"
##                         "amyloid-beta binding"
##                         "beta-1,3-galactosyl-O-glycosyl-glycoprotein beta-1,6-N-acetylglucosaminyltransfera
##                         "tRNA pseudouridine synthase activity"
##                         "beta-N-acetylhexosaminidase activity"
##                         "N-acetyl-beta-D-galactosaminidase activity"
##                         "linear polyubiquitin binding"
##                         "cation channel activity"
##                         "histone demethylase activity (H3-K27 specific)"
##                         "beta-galactosidase activity"
##                         "N-acetylgalactosaminyl-proteoglycan 3-beta-glucuronosyltransferase activity"
##                         "DNA-directed 5'-3' RNA polymerase activity"
##                         "glutamate-cysteine ligase activity"
##                         "histone acetyltransferase regulator activity"
##                         "RNA polymerase II sequence-specific DNA-binding transcription factor recruiting ac
```

```
##                    "cysteine-type endopeptidase regulator activity involved in apoptotic process"
##                    "GMP synthase activity"
##                    "GMP synthase (glutamine-hydrolyzing) activity"
##                    "arachidonic acid 14,15-epoxygenase activity"
##                    "arachidonic acid 11,12-epoxygenase activity"
##                    "linoleic acid epoxygenase activity"
##                    "high-affinity arginine transmembrane transporter activity"
##                    "high-affinity lysine transmembrane transporter activity"
##                    "endodeoxyribonuclease activity, producing 5'-phosphomonoesters"
##                    "large ribosomal subunit rRNA binding"
##                    "3-phosphoinositide-dependent protein kinase activity"
##                    "voltage-gated sodium channel activity involved in cardiac muscle cell action poten
##                    "exo-alpha-sialidase activity"
##                    "sodium ion transmembrane transporter activity"
##                    "RNA polymerase II transcription regulator recruiting activity"
##                    "muramyl dipeptide binding"
##                    "protein tyrosine kinase collagen receptor activity"
##                    "mannosyl-oligosaccharide glucosidase activity"
##                    "glucosidase activity"
##                    "alpha-galactosidase activity"
##                    "leukotriene-A4 hydrolase activity"
##                    "ganglioside GT1b binding"
##                    "hyaluronoglucosaminidase activity"
##                    "calcidiol 1-monooxygenase activity"
##                    "type 1 metabotropic glutamate receptor binding"
##                    "galactosylgalactosylxylosylprotein 3-beta-glucuronosyltransferase activity"
##                    "phosphatidylinositol-3,4,5-trisphosphate 5-phosphatase activity"
##                    "NMDA glutamate receptor activity"
##                    "isopentenyl-diphosphate delta-isomerase activity"
##                    "leptomycin B binding"
##                    "basic amino acid transmembrane transporter activity"
##                    "voltage-gated calcium channel activity involved in AV node cell action potential"
##                    "glucagon-like peptide 1 receptor activity"
##                    "myristoyltransferase activity"
##                    "RNA polymerase III transcription regulator recruiting activity"
##                    "dipeptidyl-peptidase activity"
##                    "myosin II binding"
##                    "phosphate ion transmembrane transporter activity"
##                    "LEM domain binding"
##                    "1-phosphatidylinositol-3-phosphate 5-kinase activity"
##                    "lipoprotein lipase activity"
##                    "1-phosphatidylinositol-5-kinase activity"
##                    "calcitonin gene-related peptide binding"
##                    "phenylpyruvate tautomerase activity"
##                    "calcium-dependent ATPase activity"
##                    "brain-derived neurotrophic factor-activated receptor activity"
##                    "dGTPase activity"
##                    "triphosphoric monoester hydrolase activity"
##                    "dGTP binding"
##                    "IgE binding"
##                    "glucocorticoid receptor binding"
##                    "protein-lysine N-methyltransferase activity"
##                    "RNA ligase (ATP) activity"
##                    "aminoacyl-tRNA hydrolase activity"
```

```
##                      "GKAP/Homer scaffold activity"
##                      "lipase activity"
##                      "isoprenoid binding"
##                      "steroid 17-alpha-monooxygenase activity"
##                      "interleukin-5 receptor activity"
##                      "17-alpha-hydroxyprogesterone aldolase activity"
##                      "pyrimidine-specific mismatch base pair DNA N-glycosylase activity"
##                      "apolipoprotein receptor binding"
##                      "opsonin binding"
##                      "3'-5'-exodeoxyribonuclease activity"
##                      "platelet-derived growth factor alpha-receptor activity"
##                      "potassium:chloride symporter activity"
##                      "GAF domain binding"
##                      "long-chain fatty acid transporter activity"
##                      "N-acetylglucosaminyl-proteoglycan 4-beta-glucuronosyltransferase activity"
##                      "phosphotransferase activity, alcohol group as acceptor"
##                      "telomerase activity"
##                      "dopachrome isomerase activity"
##                      "hemoglobin alpha binding"
##                      "endogenous lipid antigen binding"
##                      "exogenous lipid antigen binding"
##                      "interleukin-1 receptor activity"
##                      "histone demethylase activity (H3-R2 specific)"
##                      "histone demethylase activity (H4-R3 specific)"
##                      "peptidyl-lysine 5-dioxygenase activity"
##                      "galactosylceramide sulfotransferase activity"
##                      "voltage-gated potassium channel activity involved in atrial cardiac muscle cell ac
##                      "interleukin-3 receptor activity"
##                      "sodium:proton antiporter activity"
##                      "high molecular weight B cell growth factor receptor binding"
##                      "interleukin-6 receptor activity"
##                      "kainate selective glutamate receptor activity"
##                      "interleukin-6 binding"
##                      "ornithine decarboxylase activator activity"
##                      "glucuronosyl-N-acetylglucosaminyl-proteoglycan 4-alpha-N-acetylglucosaminyltransfe
##                      "interleukin-4 receptor activity"
##                      "sulfuric ester hydrolase activity"
##                      "dehydrodolichyl diphosphate synthase activity"
##                      "3'-5' exonuclease activity"
##                      "alpha-2B adrenergic receptor binding"
##                      "myosin VI light chain binding"
##                      "phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase activity"
##                      "nucleoside kinase activity"
##                      "leukemia inhibitory factor receptor activity"
##                      "MHC class Ib protein binding"
##                      "protein binding, bridging involved in substrate recognition for ubiquitination"
##                      "potassium:proton antiporter activity"
##                      "phosphatidylinositol N-acetylglucosaminyltransferase activity"
##                      "structural constituent of tooth enamel"
##                      "euchromatin binding"
##                      "solute:proton antiporter activity"
##                      "lactose binding"
##                      "peptidyl-lysine acetyltransferase activity"
##                      "oligopeptidase activity"
```

```
##                       "peptide alpha-N-acetyltransferase activity"
##                       "sphinganine kinase activity"
##                       "D-erythro-sphingosine kinase activity"
##                       "linoleic acid binding"
##                       "RNA polymerase I upstream control element sequence-specific DNA binding"
##                       "superoxide-generating NADPH oxidase activity"
##                       "carbohydrate kinase activity"
##                       "dephospho-CoA kinase activity"
##                       "DNA topoisomerase (ATP-hydrolyzing) activator activity"
##                       "fatty acid alpha-hydroxylase activity"
##                       "neurotransmitter transporter activity"
##                       "phosphoglycolate phosphatase activity"
##                       "serotonin-gated cation-selective channel activity"
##                       "Hsp90 protein binding"
##                       "alpha-amylase activity"
##                       "acetylcholine transmembrane transporter activity"
##                       "alpha-amylase activity (releasing maltohexaose)"
##                       "beta-glucuronidase activity"
##                       "oxidoreductase activity, acting on the CH-OH group of donors, NAD or NADP as accep
##                       "chloride transmembrane transporter activity"
##                       "Toll-like receptor 2 binding"
##                       "deoxyguanosine kinase activity"
##                       "mitochondrial sequence-specific DNA-binding transcription factor activity"
##                       "G protein-coupled bile acid receptor activity"
##                       "ornithine decarboxylase activity"
##                       "connexin binding"
##                       "cytidine deaminase activity"
##                       "crossover junction endodeoxyribonuclease activity"
##                       "nucleosome-dependent ATPase activity"
##                       "cullin family protein binding"
##                       "substance P receptor activity"
##                       "corticotropin-releasing hormone activity"
##                       "glycoprotein-N-acetylgalactosamine 3-beta-galactosyltransferase activity"
##                       "protein kinase A regulatory subunit binding"
##                       "Toll-like receptor 4 binding"
##                       "microsatellite binding"
##                       "type I interferon receptor activity"
##                       "peptide antigen-transporting ATPase activity"
##                       "vascular endothelial growth factor receptor 1 binding"
##                       "corticotropin-releasing hormone receptor 2 binding"
##                       "protein kinase C inhibitor activity"
##                       "interleukin-6 receptor binding"
##                       "vascular endothelial growth factor receptor 3 binding"
##                       "extracellular matrix constituent conferring elasticity"
##                       "alpha-1,3-mannosyltransferase activity"
##                       "SUMO-specific isopeptidase activity"
##                       "peptide transmembrane transporter activity"
##                       "G protein-coupled receptor kinase activity"
##                       "corticotropin receptor activity"
##                       "myosin II heavy chain binding"
##                       "fatty acid elongase activity"
##                       "cyclin-dependent protein kinase 5 activator activity"
##                       "purine-rich negative regulatory element binding"
##                       "3-oxo-arachidoyl-CoA synthase activity"
```

```
##                     "3-oxo-cerotoyl-CoA synthase activity"
##                     "3-oxo-lignoceronyl-CoA synthase activity"
##                     "very-long-chain 3-ketoacyl-CoA synthase activity"
##                     "O-phospho-L-serine:2-oxoglutarate aminotransferase activity"
##                     "procollagen galactosyltransferase activity"
##                     "oncostatin-M receptor activity"
##                     "glucuronosyl-N-acetylgalactosaminyl-proteoglycan 4-beta-N-acetylgalactosaminyltrar
##                     "cholesterol 7-alpha-monooxygenase activity"
##                     "phosphatidylinositol-3,4,5-trisphosphate binding"
##                     "MHC protein binding"
##                     "histone methyltransferase activity (H4-K20 specific)"
##                     "ATP citrate synthase activity"
##                     "retinoid binding"
##                     "cation-transporting ATPase activity"
##                     "gastric inhibitory peptide receptor activity"
##                     "tau-protein kinase activity"
##                     "C-4 methylsterol oxidase activity"
##                     "RNA pyrophosphohydrolase activity"
##                     "long-chain fatty acid binding"
##                     "rRNA (uridine-2'-O-)-methyltransferase activity"
##                     "Atg12 transferase activity"
##                     "proline dipeptidase activity"
##                     "non-sequence-specific DNA binding, bending"
##                     "purine nucleoside binding"
##                     "procollagen-proline 3-dioxygenase activity"
##                     "DNA/RNA helicase activity"
##                     "beta-1,3-galactosyl-O-glycosyl-glycoprotein beta-1,3-N-acetylglucosaminyltransfera
##                     "secretin receptor activity"
##                     "adipokinetic hormone receptor activity"
##                     "protein-arginine N-methyltransferase activity"
##                     "nucleotide phosphatase activity, acting on free nucleotides"
##                     "ribonuclease MRP activity"
##                     "oligosaccharide binding"
##                     "arrestin family protein binding"
##                     "intraciliary transport particle A binding"
##                     "Rho-dependent protein serine/threonine kinase activity"
##                     "ubiquitinyl hydrolase activity"
##                     "6-phosphofructo-2-kinase activity"
##                     "tRNA (cytosine-5-)-methyltransferase activity"
##                     "3-phosphoinositide-dependent protein kinase binding"
##                     "thienylcyclohexylpiperidine binding"
##                     "SUMO-specific endopeptidase activity"
##                     "RNA 7-methylguanosine cap binding"
##                     "olfactory receptor activity"
##                     "1-phosphatidylinositol-4-phosphate 5-kinase activity"
##                     "store-operated calcium channel activity"
##                     "prostaglandin receptor activity"
##                     "galactose 3-O-sulfotransferase activity"
##                     "proteoglycan sulfotransferase activity"
##                     "modification-dependent protein binding"
##                     "heparan sulfate 2-O-sulfotransferase activity"
##                     "thiosulfate sulfurtransferase activity"
##                     "all-trans-retinol binding"
##                     "luteinizing hormone receptor activity"
```

```
##                    "choriogonadotropin hormone receptor activity"
##                    "nodal binding"
##                    "choriogonadotropin hormone binding"
##                    "chemoattractant activity involved in axon guidance"
##                    "sodium ion binding"
##                    "phosphatidylinositol-3,4-bisphosphate 5-kinase activity"
##                    "fructose-2,6-bisphosphate 2-phosphatase activity"
##                    "oxygen sensor activity"
##                    "sialyltransferase activity"
##                    "opsonin receptor activity"
##                    "rRNA (cytosine-C5-)-methyltransferase activity"
##                    "galactosyltransferase activity"
##                    "inositol-1,4,5-trisphosphate 5-phosphatase activity"
##                    "interleukin-2 receptor activity"
##                    "interleukin-2 binding"
##                    "annealing helicase activity"
##                    "UDP-glucose:glycoprotein glucosyltransferase activity"
##                    "[heparan sulfate]-glucosamine 3-sulfotransferase 3 activity"
##                    "calcium-induced calcium release activity"
##                    "phosphoserine phosphatase activity"
##                    "efflux transmembrane transporter activity"
##                    "ubiquitin binding"
##                    "ATP-dependent microtubule motor activity"
##                    "calcium channel activity"
##                    "estrone sulfotransferase activity"
##                    "protein farnesyltransferase activity"
##                    "troponin T binding"
##                    "myosin head/neck binding"
##                    "bile acid receptor activity"
##                    "morphogen activity"
##                    "myosin tail binding"
##                    "snRNP binding"
##                    "protein-glutamine gamma-glutamyltransferase activity"
##                    "tRNA (guanine-N2-)-methyltransferase activity"
##                    "nerve growth factor receptor binding"
##                    "satellite DNA binding"
##                    "beta1-adrenergic receptor activity"
##                    "RNA polymerase II transcription coactivator binding"
##                    "delta14-sterol reductase activity"
##                    "deoxynucleoside kinase activity"
##                    "erythropoietin receptor binding"
##                    "intracellular cGMP-activated cation channel activity"
##                    "ciliary neurotrophic factor receptor binding"
##                    "alpha-2 macroglobulin receptor activity"
##                    "apolipoprotein receptor activity"
##                    "intracellular cAMP-activated cation channel activity"
##                    "4-alpha-hydroxytetrahydrobiopterin dehydratase activity"
##                    "RNA polymerase I core binding"
##                    "interleukin-1, type I receptor binding"
##                    "oxidoreductase activity, acting on paired donors, with incorporation or reduction
##                    "metallocarboxypeptidase activity"
##                    "polynucleotide adenylyltransferase activity"
##                    "DNA N-glycosylase activity"
##                    "adiponectin binding"
```

```
##                  "sulfurtransferase activity"
##                  "growth hormone-releasing hormone receptor binding"
##                  "TIR domain binding"
##                  "transforming growth factor beta receptor, inhibitory cytoplasmic mediator activity
##                  "pre-mRNA intronic pyrimidine-rich binding"
##                  "trace-amine receptor activity"
##                  "toxin transmembrane transporter activity"
##                  "nitric-oxide synthase binding"
##                  "AMP deaminase activity"
##                  "hormone receptor binding"
##                  "nucleosomal histone binding"
##                  "C-3 sterol dehydrogenase (C-4 sterol decarboxylase) activity"
##                  "growth hormone secretagogue receptor activity"
##                  "sterol-4-alpha-carboxylate 3-dehydrogenase (decarboxylating) activity"
##                  "4alpha-carboxy-4beta-methyl-5alpha-cholesta-8-en-3beta-ol:NAD(P)+ 3-oxidoreductase
##                  "4alpha-carboxy-5alpha-cholesta-8-en-3beta-ol:NAD(P)+ 3-dehydrogenase (decarboxylat
##                  "adenylosuccinate synthase activity"
##                  "tRNA-specific adenosine deaminase activity"
##                  "molybdopterin synthase activity"
##                  "transmembrane receptor protein tyrosine kinase activator activity"
##                  "alcohol sulfotransferase activity"
##                  "inositol 1,3,4,5 tetrakisphosphate binding"
##                  "transcription factor activity, direct ligand regulated sequence-specific DNA bind
##                  "activin-activated receptor activity"
##                  "GTPase activating protein binding"
##                  "BMP receptor binding"
##                  "phospholipase inhibitor activity"
##                  "steroid 11-beta-monooxygenase activity"
##                  "parathyroid hormone receptor binding"
##                  "type 1 parathyroid hormone receptor binding"
##                  "corticosterone 18-monooxygenase activity"
##                  "oxysterol 7-alpha-hydroxylase activity"
##                  "MAP kinase tyrosine/serine/threonine phosphatase activity"
##                  "laminin-1 binding"
##                  "opsin binding"
##                  "inhibin binding"
##                  "organic cyclic compound binding"
##                  "kinase inhibitor activity"
##                  "K6-linked polyubiquitin modification-dependent protein binding"
##                  "GTPase inhibitor activity"
##                  "corticotropin-releasing hormone binding"
##                  "Ras GTPase binding"
##                  "acyl-L-homoserine-lactone lactonohydrolase activity"
##                  "phosphatidate phosphatase activity"
##                  "lipoprotein particle receptor binding"
##                  "protein-N-terminal glutamine amidohydrolase activity"
##                  "acetyltransferase activator activity"
##                  "U6 snRNA binding"
##                  "ATPase-coupled anion transmembrane transporter activity"
##                  "cytokine receptor binding"
##                  "pyrophosphatase activity"
##                  "adrenomedullin receptor binding"
##                  "endodeoxyribonuclease activity"
##                  "alkaline phosphatase activity"
```

```
##                      "hedgehog receptor activity"
##                      "hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds"
##                      "beta3-adrenergic receptor activity"
##                      "BMP binding"
##                      "beta-galactoside (CMP) alpha-2,3-sialyltransferase activity"
##                      "phosphatidylinositol-3,4-bisphosphate binding"
##                      "vitamin-K-epoxide reductase (warfarin-sensitive) activity"
##                      "glial cell-derived neurotrophic factor receptor activity"
##                      "transferase activity, transferring glycosyl groups"
##                      "translation release factor activity"
##                      "phosphatase inhibitor activity"
##                      "interleukin-3 receptor binding"
##                      "translation repressor activity"
##                      "sphingomyelin phosphodiesterase activator activity"
##                      "bicarbonate transmembrane transporter activity"
##                      "fibrinogen binding"
##                      "3'-flap-structured DNA binding"
##                      "microtubule lateral binding"
##                      "S100 protein binding"
##                      "structural constituent of postsynaptic intermediate filament cytoskeleton"
##                      "double-stranded RNA adenosine deaminase activity"
##                      "histone methyltransferase activity (H3-K36 specific)"
##                      "telethonin binding"
##                      "sterol O-acyltransferase activity"
##                      "carbohydrate:proton symporter activity"
##                      "minus-end directed microfilament motor activity"
##                      "glycylpeptide N-tetradecanoyltransferase activity"
##                      "3-beta-hydroxy-delta5-steroid dehydrogenase activity"
##                      "beta-3 adrenergic receptor binding"
##                      "chondroitin 6-sulfotransferase activity"
##                      "piRNA binding"
##                      "death receptor activity"
##                      "double-stranded DNA exodeoxyribonuclease activity"
##                      "peptidase activator activity involved in apoptotic process"
##                      "glucocorticoid receptor activity"
##                      "RNA polymerase II transcription factor activity, glucocorticoid-activated sequenc
##                      "kinase activity"
##                      "beta-N-acetylglucosaminylglycopeptide beta-1,4-galactosyltransferase activity"
##                      "Gq/11-coupled serotonin receptor activity"
##                      "cadherin binding"
##                      "poly-purine tract binding"
##                      "hydroxyacylglutathione hydrolase activity"
##                      "eukaryotic translation initiation factor 2alpha kinase activity"
##                      "inositol-1,4,5-trisphosphate 3-kinase activity"
##                      "troponin C binding"
##                      "death effector domain binding"
##                      "lipoteichoic acid binding"
##                      "mitogen-activated protein kinase kinase kinase binding"
##                      "oxytocin receptor activity"
##                      NA
##                      "repressing transcription factor binding"
##                      "cholesterol binding"
##                      "rRNA (guanine) methyltransferase activity"
##                      "U3 snoRNA binding"
```

```
##                      "RNA polymerase II transcription factor activity, estrogen-activated sequence-spec
##                      "protein tyrosine kinase binding"
##                      "cation binding"
##                      "coreceptor activity involved in Wnt signaling pathway"
##                      "coreceptor activity involved in canonical Wnt signaling pathway"
##                      "RNA polymerase II CTD heptapeptide repeat phosphatase activity"
##                      "3'-flap endonuclease activity"
##                      "omega peptidase activity"
##                      "stem cell factor receptor activity"
##                      "flavonol 3-sulfotransferase activity"
##                      "ciliary neurotrophic factor receptor activity"
##                      "phosphatase binding"
##                      "structural constituent of cell wall"
##                      "ATPase inhibitor activity"
##                      "adenylate cyclase activity"
##                      "hemi-methylated DNA-binding"
##                      "cysteinyl leukotriene receptor activity"
##                      "activin binding"
##                      "serum response element binding"
##                      "urokinase plasminogen activator receptor activity"
##                      "follicle-stimulating hormone receptor activity"
##                      "ligand-gated sodium channel activity"
##                      "reelin receptor activity"
##                      "single-stranded DNA 5'-3' exodeoxyribonuclease activity"
##                      "flap endonuclease activity"
##                      "double-stranded DNA 5'-3' exodeoxyribonuclease activity"
##                      "substance P receptor binding"
##                      "thyrotropin-releasing hormone activity"
##                      "extracellular matrix constituent, lubricant activity"
##                      "transferrin receptor activity"
##                      "transferrin transmembrane transporter activity"
##                      "calcitonin binding"
##                      "pituitary adenylate cyclase activating polypeptide activity"
##                      "snoRNA binding"
##                      "pituitary adenylate cyclase-activating polypeptide receptor binding"
##                      "neurotransmitter binding"
##                      "leptin receptor binding"
##                      "tumor necrosis factor receptor superfamily binding"
##                      "purine ribonucleoside triphosphate binding"
##                      "STAT family protein binding"
##                      "zinc ion transmembrane transporter activity"
##                      "parathyroid hormone receptor activity"
##                      "glycerol kinase activity"
##                      "SUMO activating enzyme activity"
##                      "natural killer cell lectin-like receptor binding"
##                      "thyrotropin-releasing hormone receptor activity"
##                      "endoplasmic reticulum signal peptide binding"
##                      "voltage-gated chloride channel activity"
##                      "orexigenic neuropeptide QRFP receptor binding"
##                      "sialic acid binding"
##                      "follicle-stimulating hormone activity"
##                      "cell adhesion molecule binding"
##                      "inward rectifier potassium channel inhibitor activity"
##                      "voltage-gated calcium channel activity involved in cardiac muscle cell action pote
```

```
##                     "amidophosphoribosyltransferase activity"
##                     "receptor tyrosine kinase-like orphan receptor binding"
##                     "hepatocyte growth factor-activated receptor activity"
##                     "folic acid receptor activity"
##                     "steroid hormone receptor binding"
##                     "transforming growth factor beta receptor activity, type I"
##                     "2-acylglycerol-3-phosphate O-acyltransferase activity"
##                     "methotrexate binding"
##                     "histone demethylase activity (H3-dimethyl-K4 specific)"
##                     "A1 adenosine receptor binding"
##                     "ADP-activated adenosine receptor activity"
##                     "bioactive lipid receptor activity"
##                     "bombesin receptor activity"
##                     "AMPA glutamate receptor activity"
##                     "delta-catenin binding"
##                     "oxidized purine nucleobase lesion DNA N-glycosylase activity"
##                     "3',5'-cyclic-AMP phosphodiesterase activity"
##                     "thromboxane A2 receptor activity"
##                     "single-stranded DNA 3'-5' exodeoxyribonuclease activity"
##                     "arachidonic acid epoxygenase activity"
##                     "N-acetylglucosamine deacetylase activity"
##                     "vitamin D binding"
##                     "double-stranded DNA 3'-5' exodeoxyribonuclease activity"
##                     "steroid receptor RNA activator RNA binding"
##                     "ferric iron transmembrane transporter activity"
##                     "phospholipase A2 activity"
##                     "histone kinase activity"
##                     "DNA topoisomerase type I activity"
##                     "type 3 metabotropic glutamate receptor binding"
##                     "N-terminal myristoylation domain binding"
##                     "phosphorylase kinase regulator activity"
##                     "ghrelin receptor binding"
##                     "inositol-1,3,4,5-tetrakisphosphate 5-phosphatase activity"
##                     "histone methyltransferase activity (H3-R17 specific)"
##                     "fibroblast growth factor-activated receptor activity"
##                     "histone-dependent DNA binding"
##                     "DNA translocase activity"
##                     "dehydroascorbic acid transmembrane transporter activity"
##                     "angiotensin type I receptor activity"
##                     "Wnt-activated receptor activity"
##                     "ankyrin repeat binding"
##                     "type 1 fibroblast growth factor receptor binding"
##                     "threonine-type endopeptidase activity"
##                     "neurotransmitter receptor activity involved in regulation of postsynaptic membran
##                     "interleukin-7 receptor activity"
##                     "potassium channel inhibitor activity"
##                     "D5 dopamine receptor binding"
##                     "excitatory extracellular ligand-gated ion channel activity"
##                     "pre-mRNA 5'-splice site binding"
##                     "H3 histone acetyltransferase activity"
##                     "thyroid-stimulating hormone receptor activity"
##                     "heparan sulfate 6-O-sulfotransferase activity"
##                     "protein kinase A binding"
##                     "opioid receptor binding"
```

```
##                     "bradykinin receptor binding"
##                     "iron ion binding"
##                     "type 2 fibroblast growth factor receptor binding"
##                     "structural molecule activity conferring elasticity"
##                     "chemokine (C-C motif) ligand 2 binding"
##                     "chemokine (C-C motif) ligand 12 binding"
##                     "motilin receptor binding"
##                     "oxytocin receptor binding"
##                     "laminin binding"
##                     "bubble DNA binding"
##                     "kisspeptin receptor binding"
##                     "arachidonic acid binding"
##                     "structural constituent of myelin sheath"
##                     "type 1 hypocretin receptor binding"
##                     "type 2 hypocretin receptor binding"
##                     "procollagen-lysine 5-dioxygenase activity"
##                     "procollagen glucosyltransferase activity"
##                     "transcription termination site sequence-specific DNA binding"
##                     "PH domain binding"
##                     "netrin receptor activity"
##                     "tRNA guanylyltransferase activity"
##                     "DNA topoisomerase activity"
##                     "tubulin-dependent ATPase activity"
##                     "exon-exon junction complex binding"
##                     "phosphatidylinositol phosphate 5-phosphatase activity"
##                     "oxysterol binding"
##                     "vitamin D response element binding"
##                     "protein-lysine 6-oxidase activity"
##                     "phosphatidylinositol-3-phosphate binding"
##                     "exoribonuclease activity"
##                     "E-box binding"
##                     "oxidoreductase activity, acting on single donors with incorporation of molecular
##                     "14-3-3 protein binding"
##                     "angiostatin binding"
##                     "intracellularly ATP-gated chloride channel activity"
##                     "lipopeptide binding"
##                     "ATP-dependent polydeoxyribonucleotide 5'-hydroxyl-kinase activity"
##                     "exonuclease activity"
##                     "exodeoxyribonuclease III activity"
##                     "myosin phosphatase activity"
##                     "actin monomer binding"
##                     "lipid transporter activity"
##                     "CCR2 chemokine receptor binding"
##                     "substance K receptor activity"
##                     "sterol binding"
##                     "distal enhancer DNA-binding transcription repressor activity, RNA polymerase II-sp
##                     "calcitriol receptor activity"
##                     "lithocholic acid receptor activity"
##                     "calcitriol binding"
##                     "lithocholic acid binding"
##                     "phosphatidylinositol 3-kinase activity"
##                     "fatty acid transmembrane transporter activity"
##                     "transmembrane receptor protein tyrosine kinase activity"
##                     "CCR3 chemokine receptor binding"
```

```
##                    "5'-flap endonuclease activity"
##                    "calcitonin receptor binding"
##                    "insulin-activated receptor activity"
##                    "mannose transmembrane transporter activity"
##                    "3'-phosphoadenosine 5'-phosphosulfate binding"
##                    "transcription regulator recruiting activity"
##                    "cholesterol O-acyltransferase activity"
##                    "5'-3' exodeoxyribonuclease activity"
##                    "CD40 receptor binding"
##                    "JUN kinase binding"
##                    "estrogen response element binding"
##                    "type III transforming growth factor beta receptor binding"
##                    "platelet activating factor receptor activity"
##                    "mineralocorticoid receptor activity"
##                    "steroid hormone binding"
##                    "G protein-coupled neurotransmitter receptor activity involved in regulation of pos
##                    "protease binding"
##                    "lipid binding"
##                    "voltage-gated sodium channel activity"
##                    "heparan sulfate N-acetylglucosaminyltransferase activity"
##                    "structural constituent of postsynaptic density"
##                    "superoxide-generating NADPH oxidase activator activity"
##                    "transforming growth factor beta receptor, cytoplasmic mediator activity"
##                    "G-protein activated inward rectifier potassium channel activity"
##                    "angiotensin type II receptor activity"
##                    "purine nucleotide binding"
##                    "ribosomal protein S6 kinase activity"
##                    "kinase activator activity"
##                    "carbohydrate binding"
##                    "endothelin A receptor binding"
##                    "intronic transcription regulatory region sequence-specific DNA binding"
##                    "high-density lipoprotein particle receptor binding"
##                    "growth hormone-releasing hormone receptor activity"
##                    "semaphorin receptor binding"
##                    "hedgehog family protein binding"
##                    "gastrin receptor activity"
##                    "type B gastrin/cholecystokinin receptor binding"
##                    "adrenomedullin binding"
##                    "POU domain binding"
##                    "5'-deoxyribose-5-phosphate lyase activity"
##                    "inositol-polyphosphate 5-phosphatase activity"
##                    "interleukin-5 receptor binding"
##                    "guanylate kinase activity"
##                    "acetylglucosaminyltransferase activity"
##                    "sterol transporter activity"
##                    "polydeoxyribonucleotide kinase activity"
##                    "ATP-dependent polyribonucleotide 5'-hydroxyl-kinase activity"
##                    "insulin-like growth factor-activated receptor activity"
##                    "high voltage-gated calcium channel activity"
##                    "retinoic acid 4-hydroxylase activity"
##                    "U5 snRNA binding"
##                    "vascular endothelial growth factor receptor binding"
##                    "extracellular matrix binding"
##                    "N-acetyllactosaminide beta-1,3-N-acetylglucosaminyltransferase activity"
```

```
##                     "phosphodiesterase I activity"
##                     "Toll-like receptor binding"
##                     "CXCR5 chemokine receptor binding"
##                     "DNA binding, bending"
##                     "protein domain specific binding"
##                     "C5L2 anaphylatoxin chemotactic receptor binding"
##                     "GMP binding"
##                     "D1 dopamine receptor binding"
##                     "peptide-serine-N-acetyltransferase activity"
##                     "histone kinase activity (H3-T11 specific)"
##                     "apelin receptor binding"
##                     "transforming growth factor beta receptor binding"
##                     "IgG binding"
##                     "lipoprotein particle binding"
##                     "1-phosphatidylinositol binding"
##                     "uracil DNA N-glycosylase activity"
##                     "single-stranded telomeric DNA binding"
##                     "neurotransmitter receptor activity involved in regulation of presynaptic cytosoli
##                     "RNA strand-exchange activity"
##                     "dynorphin receptor activity"
##                     "peptide-glutamate-N-acetyltransferase activity"
##                     "complement component C3a receptor activity"
##                     "JUN kinase kinase activity"
##                     "sterol response element binding"
##                     "unmethylated CpG binding"
##                     "drug binding"
##                     "chemokine (C-C motif) ligand 19 binding"
##                     "chemokine (C-C motif) ligand 21 binding"
##                     "C-C motif chemokine 19 receptor activity"
##                     "C-C motif chemokine 21 receptor activity"
##                     "pre-mRNA branch point binding"
##                     "phosphatidylcholine-sterol O-acyltransferase activator activity"
##                     "forked DNA-dependent helicase activity"
##                     "kringle domain binding"
##                     "enkephalin receptor activity"
##                     "5-oxo-6E,8Z,11Z,14Z-icosatetraenoic acid binding"
##                     "5-hydroxy-6E,8Z,11Z,14Z-icosatetraenoic acid binding"
##                     "5(S)-hydroxyperoxy-6E,8Z,11Z,14Z-icosatetraenoic acid binding"
##                     "complement component C5a binding"
##                     "adenylate cyclase activator activity"
##                     "type 1 galanin receptor binding"
##                     "type 2 galanin receptor binding"
##                     "type 3 galanin receptor binding"
##                     "DNA clamp loader activity"
##                     "bone sialoprotein binding"
##                     "voltage-gated calcium channel activity involved in regulation of cytosolic calciu
##                     "acetylgalactosaminyltransferase activity"
##                     "phosphatidylinositol bisphosphate binding"
##                     "dopamine neurotransmitter receptor activity, coupled via Gs"
##                     "complement component C5a receptor activity"
##                     "smoothened binding"
##                     "acetylcholine binding"
##                     "myosin heavy chain binding"
##                     "beta-adrenergic receptor activity"
```

```
##                  "nicotinic acid receptor activity"
##                  "ErbB-3 class receptor binding"
##                  "cysteine-type endopeptidase inhibitor activity"
##                  "type I interferon receptor binding"
##                  "receptor signaling complex scaffold activity"
##                  "9-cis retinoic acid receptor activity"
##                  "ubiquitin modification-dependent histone binding"
##                  "activin receptor activity, type I"
##                  "corticotrophin-releasing factor receptor activity"
##                  "3-hydroxyacyl-CoA dehydratase activity"
##                  "siRNA binding"
##                  "corticotropin-releasing hormone receptor activity"
##                  "very-long-chain 3-hydroxyacyl-CoA dehydratase activity"
##                  "3-hydroxy-arachidoyl-CoA dehydratase activity"
##                  "3-hydroxy-behenoyl-CoA dehydratase activity"
##                  "3-hydroxy-lignoceroyl-CoA dehydratase activity"
##                  "class I DNA-(apurinic or apyrimidinic site) endonuclease activity"
##                  "flap-structured DNA binding"
##                  "nociceptin receptor activity"
##                  "syndecan binding"
##                  "stearoyl-CoA 9-desaturase activity"
##                  "cell-cell adhesion mediator activity"
##                  "ubiquitin conjugating enzyme activity"
##                  "inhibitory extracellular ligand-gated ion channel activity"
##                  "thyroid hormone receptor activity"
##                  "CCR6 chemokine receptor binding"
##                  "steroid sulfotransferase activity"
##                  "DNA-dependent ATPase activity"
##                  "uridine nucleotide receptor activity"
##                  "structural constituent of synapse"
##                  "adrenomedullin receptor activity"
##                  "NAD(P)+-protein-arginine ADP-ribosyltransferase activity"
##                  "neuropeptide Y receptor binding"
##                  "intraciliary transport particle B binding"
##                  "DNA primase activity"
##                  "core promoter binding"
##                  "peptide antigen binding"
##                  "histone demethylase activity (H3-K36 specific)"
##                  "beta-2 adrenergic receptor binding"
##                  "3'-5'-exoribonuclease activity"
##                  "N-acetylgalactosamine 4-O-sulfotransferase activity"
##                  "vascular endothelial growth factor receptor 2 binding"
##                  "ISG15 transferase activity"
##                  "histone demethylase activity (H3-K4 specific)"
##                  "11-cis retinal binding"
##                  "glucagon receptor binding"
##                  "insulin-like growth factor binding"
##                  "Rac GTPase binding"
##                  "G protein-coupled photoreceptor activity"
##                  "group III metabotropic glutamate receptor activity"
##                  "adenylate cyclase inhibitor activity"
##                  "oxidized pyrimidine DNA binding"
##                  "chondroitin 4-sulfotransferase activity"
##                  "very-low-density lipoprotein particle receptor activity"
```

```
##                      "actin binding"
##                      "histone demethylase activity (H3-trimethyl-K4 specific)"
##                      "endoribonuclease activity"
##                      "phosphatidic acid binding"
##                      "telomeric G-quadruplex DNA binding"
##                      "8-hydroxy-2'-deoxyguanosine DNA binding"
##                      "UDP-galactose:beta-N-acetylglucosamine beta-1,3-galactosyltransferase activity"
##                      "GABA-gated chloride ion channel activity"
##                      "monooxygenase activity"
##                      "histone kinase activity (H3-Y41 specific)"
##                      "DBD domain binding"
##                      "[heparan sulfate]-glucosamine N-sulfotransferase activity"
##                      "C-X-C chemokine binding"
##                      "N-acetyltransferase activity"
##                      "interleukin-8 receptor binding"
##                      "CTPase activity"
##                      "calcitonin receptor activity"
##                      "chemorepellent activity"
##                      "MDM2/MDM4 family protein binding"
##                      "oxidoreductase activity, acting on a sulfur group of donors, disulfide as accepto
##                      "V2 vasopressin receptor binding"
##                      "protein ADP-ribosylase activity"
##                      "molecular function regulator"
##                      "melanocyte-stimulating hormone receptor activity"
##                      "G protein-coupled neurotensin receptor activity"
##                      "steroid hormone receptor activity"
##                      "rDNA binding"
##                      "cytokine activity"
##                      "mitogen-activated protein kinase binding"
##                      "chloride channel regulator activity"
##                      "retinoic acid binding"
##                      "adenylate cyclase inhibiting G protein-coupled glutamate receptor activity"
##                      "phosphatase activity"
##                      "thrombospondin receptor activity"
##                      "insulin binding"
##                      "vinculin binding"
##                      "keratin filament binding"
##                      "1-(4-iodo-2,5-dimethoxyphenyl)propan-2-amine binding"
##                      "DNA-methyltransferase activity"
##                      "rRNA binding"
##                      "histone kinase activity (H3-T6 specific)"
##                      "histone demethylase activity (H3-K9 specific)"
##                      "beta-endorphin receptor activity"
##                      "growth hormone receptor binding"
##                      "morphine receptor activity"
##                      "site-specific endodeoxyribonuclease activity, specific for altered base"
##                      "interleukin-8 binding"
##                      "UDP-activated nucleotide receptor activity"
##                      "steroid hydroxylase activity"
##                      "phosphothreonine residue binding"
##                      "gonadotropin hormone-releasing hormone activity"
##                      "gonadotropin-releasing hormone receptor binding"
##                      "receptor signaling protein tyrosine kinase activator activity"
##                      "CCR4 chemokine receptor binding"
```

```
##                     "chemokine receptor antagonist activity"
##                     "GABA-A receptor activity"
##                     "chloride ion binding"
##                     "estrogen receptor activity"
##                     "channel regulator activity"
##                     "phospholipid transporter activity"
##                     "phosphatase activator activity"
##                     "semaphorin receptor activity"
##                     "RAGE receptor binding"
##                     "DNA-(apurinic or apyrimidinic site) endonuclease activity"
##                     "neurexin family protein binding"
##                     "transforming growth factor beta receptor activity, type II"
##                     "alpha1-adrenergic receptor activity"
##                     "LBD domain binding"
##                     "molecular adaptor activity"
##                     "sequence-specific single stranded DNA binding"
##                     "armadillo repeat domain binding"
##                     "polyamine binding"
##                     "protein membrane anchor"
##                     "telomeric D-loop binding"
##                     "ADP-ribosylation factor binding"
##                     "SUMO polymer binding"
##                     "chloride channel activity"
##                     "WD40-repeat domain binding"
##                     "four-way junction helicase activity"
##                     "muscle alpha-actinin binding"
##                     "RNA polymerase III type 3 promoter DNA binding"
##                     "lipoprotein transporter activity"
##                     "RNA polymerase II activating transcription factor binding"
##                     "urotensin II receptor activity"
##                     "androgen receptor activity"
##                     "phosphatidylinositol-3,5-bisphosphate 3-phosphatase activity"
##                     "regulatory region RNA binding"
##                     "RNA polymerase II general transcription initiation factor activity"
##                     "helicase activity"
##                     "phospholipase activator activity"
##                     "adrenergic receptor activity"
##                     "prostaglandin J receptor activity"
##                     "prostaglandin D receptor activity"
##                     "5.8S rRNA binding"
##                     "SUMO ligase activity"
##                     "type 2 angiotensin receptor binding"
##                     "RING-like zinc finger domain binding"
##                     "oxidoreductase activity, acting on paired donors, with incorporation or reduction
##                     "histone acetyltransferase activity (H4-K5 specific)"
##                     "histone acetyltransferase activity (H4-K8 specific)"
##                     "histone acetyltransferase activity (H4-K16 specific)"
##                     "protein serine/threonine kinase activator activity"
##                     "protein tyrosine phosphatase activity"
##                     "filamin binding"
##                     "myosin light chain binding"
##                     "transcription cofactor binding"
##                     "tachykinin receptor activity"
##                     "phosphatase regulator activity"
```

```
##                     "CCR7 chemokine receptor binding"
##                     "vascular endothelial growth factor binding"
##                     "RNA-DNA hybrid ribonuclease activity"
##                     "second spliceosomal transesterification activity"
##                     "[heparan sulfate]-glucosamine 3-sulfotransferase 1 activity"
##                     "histone deacetylase regulator activity"
##                     "growth hormone-releasing hormone activity"
##                     "ubiquitin conjugating enzyme binding"
##                     "transcription factor activity, sequence-specific DNA binding, RNA polymerase recru
##                     "complement binding"
##                     "ATP-dependent helicase activity"
##                     "transferrin receptor binding"
##                     "steroid binding"
##                     "protein kinase C binding"
##                     "histone acetyltransferase activity"
##                     "dioxygenase activity"
##                     "double-stranded methylated DNA binding"
##                     "type 1 neuromedin U receptor binding"
##                     "type 2 neuromedin U receptor binding"
##                     "neuromedin U receptor binding"
##                     "calcitonin gene-related peptide receptor activity"
##                     "orexin receptor activity"
##                     "vasoactive intestinal polypeptide receptor activity"
##                     "polypeptide N-acetylgalactosaminyltransferase activity"
##                     "prostaglandin F receptor activity"
##                     "TFIIIC-class transcription factor complex binding"
##                     "chemokine (C-C motif) ligand 7 binding"
##                     "phosphatidylinositol-3,5-bisphosphate 5-phosphatase activity"
##                     "cysteine-type endopeptidase activator activity involved in apoptotic process"
##                     "glycosaminoglycan binding"
##                     "palmitoyltransferase activity"
##                     "leukotriene B4 receptor activity"
##                     "corticotropin-releasing hormone receptor 1 binding"
##                     "U7 snRNA binding"
##                     "integrin binding"
##                     "melanin-concentrating hormone receptor activity"
##                     "enhancer binding"
##                     "NAD-dependent histone deacetylase activity (H3-K9 specific)"
##                     "tumor necrosis factor receptor binding"
##                     "eukaryotic initiation factor 4E binding"
##                     "V1B vasopressin receptor binding"
##                     "hormone binding"
##                     "G protein-coupled receptor activity involved in regulation of postsynaptic membra
##                     "ATP-dependent 3'-5' DNA/RNA helicase activity"
##                     "single-stranded DNA-dependent ATP-dependent 3'-5' DNA helicase activity"
##                     "Rab guanyl-nucleotide exchange factor activity"
##                     "RNA polymerase III general transcription initiation factor activity"
##                     "beta-2-microglobulin binding"
##                     "UTP-activated nucleotide receptor activity"
##                     "extracellular matrix structural constituent conferring tensile strength"
##                     "vascular endothelial growth factor-activated receptor activity"
##                     "transforming growth factor beta receptor, common-partner cytoplasmic mediator act
##                     "estrogen receptor binding"
##                     "melatonin receptor activity"
```

```
##                     "cell adhesive protein binding involved in bundle of His cell-Purkinje myocyte comm
##                     "ATP-activated adenosine receptor activity"
##                     "retinoid X receptor binding"
##                     "histone serine kinase activity"
##                     "C-8 sterol isomerase activity"
##                     "nuclear receptor activity"
##                     "7S RNA binding"
##                     "rRNA primary transcript binding"
##                     "RNA polymerase II intronic transcription regulatory region sequence-specific DNA l
##                     "ADP receptor activity"
##                     "melanocortin receptor activity"
##                     "glycosphingolipid binding"
##                     "mitogen-activated protein kinase kinase binding"
##                     "receptor-receptor interaction"
##                     "heparan sulfate proteoglycan binding"
##                     "chemokine (C-C motif) ligand 5 binding"
##                     "cytokine binding"
##                     "selenocysteine insertion sequence binding"
##                     "interleukin-12 receptor binding"
##                     "nucleoside-triphosphate diphosphatase activity"
##                     "protein serine/threonine kinase inhibitor activity"
##                     "endothelin receptor activity"
##                     "L-ascorbic acid binding"
##                     "platelet-derived growth factor binding"
##                     "lipopolysaccharide receptor activity"
##                     "G protein-coupled neurotransmitter receptor activity involved in regulation of pos
##                     "extracellular matrix structural constituent conferring compression resistance"
##                     "Fc-gamma receptor I complex binding"
##                     "melanin-concentrating hormone activity"
##                     "triplex DNA binding"
##                     "MH2 domain binding"
##                     "insulin-like growth factor II binding"
##                     "mineralocorticoid receptor binding"
##                     "amylin receptor activity"
##                     "transition metal ion binding"
##                     "double-stranded DNA-dependent ATPase activity"
##                     "DNA/DNA annealing activity"
##                     "extracellular ligand-gated ion channel activity"
##                     "receptor antagonist activity"
##                     "intracellular calcium activated chloride channel activity"
##                     "calcium-dependent protein kinase C activity"
##                     "poly(A)-specific ribonuclease activity"
##                     "SNARE binding"
##                     "ion channel inhibitor activity"
##                     "sphingolipid binding"
##                     "cyclin-dependent protein serine/threonine kinase inhibitor activity"
##                     "JUN kinase activity"
##                     "RNA-directed 5'-3' RNA polymerase activity"
##                     "mannose binding"
##                     "type 3 melanocortin receptor binding"
##                     "type 4 melanocortin receptor binding"
##                     "type 1 melanocortin receptor binding"
##                     "glucagon receptor activity"
##                     "interleukin-8 receptor activity"
```

```
##                      "cholecystokinin receptor activity"
##                      "single-stranded DNA-dependent ATPase activity"
##                      "alpha-2C adrenergic receptor binding"
##                      "translation initiation factor binding"
##                      "platelet activating factor receptor binding"
##                      "N-acetylglucosamine 6-O-sulfotransferase activity"
##                      "protein phosphatase 1 binding"
##                      "DNA-dependent protein kinase activity"
##                      "glutamate receptor binding"
##                      "DNA (cytosine-5-)-methyltransferase activity"
##                      "retinoic acid-responsive element binding"
##                      "D2 dopamine receptor binding"
##                      "SUMO conjugating enzyme activity"
##                      "nuclease activity"
##                      "transforming growth factor beta-activated receptor activity"
##                      "ephrin receptor activity"
##                      "small ribosomal subunit rRNA binding"
##                      "DNA-binding transcription repressor activity, RNA polymerase II-specific"
##                      "clathrin binding"
##                      "snRNA stem-loop binding"
##                      "ribonucleoprotein complex binding"
##                      "phosphatidylinositol binding"
##                      "3'-5' DNA helicase activity"
##                      "H4 histone acetyltransferase activity"
##                      "AP-2 adaptor complex binding"
##                      "RNA polymerase III type 1 promoter DNA binding"
##                      "RNA polymerase III type 2 promoter DNA binding"
##                      "histone methyltransferase activity (H3-K9 specific)"
##                      "ribonuclease P activity"
##                      "ribonuclease activity"
##                      "GTP-Rho binding"
##                      "NAD-dependent histone deacetylase activity (H3-K14 specific)"
##                      NA
##                      "thiol-dependent ubiquitinyl hydrolase activity"
##                      "protein kinase C activity"
##                      "RISC complex binding"
##                      "alpha-catenin binding"
##                      "protein propionyltransferase activity"
##                      "peptide butyryltransferase activity"
##                      "histone crotonyltransferase activity"
##                      "histone butyryltransferase activity"
##                      "enzyme inhibitor activity"
##                      "CCR5 chemokine receptor binding"
##                      "double-stranded telomeric DNA binding"
##                      "V1A vasopressin receptor binding"
##                      "phosphatidylinositol-4,5-bisphosphate binding"
##                      "calmodulin binding"
##                      "transcription factor activity, RNA polymerase II proximal promoter sequence-speci
##                      "structural constituent of epidermis"
##                      "insulin-like growth factor I binding"
##                      "protein phosphatase inhibitor activity"
##                      "ATP-dependent microtubule motor activity, minus-end-directed"
##                      "retinoic acid receptor binding"
##                      "protein-cysteine S-palmitoyltransferase activity"
```

```
##                     "DNA-directed DNA polymerase activity"
##                     "alpha-2A adrenergic receptor binding"
##                     "phosphatidylinositol 3-kinase regulator activity"
##                     "neurotransmitter receptor activity involved in regulation of postsynaptic cytosol
##                     "RNA polymerase II CTD heptapeptide repeat kinase activity"
##                     "tropomyosin binding"
##                     "supercoiled DNA binding"
##                     "dystroglycan binding"
##                     "CXCR chemokine receptor binding"
##                     "opioid peptide activity"
##                     "anaphase-promoting complex binding"
##                     "R-SMAD binding"
##                     "group II metabotropic glutamate receptor activity"
##                     "aromatase activity"
##                     "leukotriene receptor activity"
##                     "telomerase RNA binding"
##                     "type 5 metabotropic glutamate receptor binding"
##                     "axon guidance receptor activity"
##                     "poly-pyrimidine tract binding"
##                     "type II transforming growth factor beta receptor binding"
##                     "growth factor binding"
##                     "G protein-coupled serotonin receptor binding"
##                     "dopamine neurotransmitter receptor activity"
##                     "cysteine-type peptidase activity"
##                     "transmitter-gated ion channel activity involved in regulation of postsynaptic memb
##                     "RNA polymerase II C-terminal domain binding"
##                     "TFIIB-class transcription factor binding"
##                     "phosphorylation-dependent protein binding"
##                     "TFIIH-class transcription factor complex binding"
##                     "signaling adaptor activity"
##                     "scavenger receptor binding"
##                     "G protein-coupled GABA receptor activity"
##                     "HLH domain binding"
##                     "G protein-coupled receptor binding"
##                     "GTPase binding"
##                     "cadherin binding involved in cell-cell adhesion"
##                     "neurohypophyseal hormone activity"
##                     "aryl sulfotransferase activity"
##                     "eukaryotic initiation factor eIF2 binding"
##                     "histone methyltransferase activity (H3-K4 specific)"
##                     "alpha-1A adrenergic receptor binding"
##                     "angiotensin receptor binding"
##                     "follicle-stimulating hormone receptor binding"
##                     "Rho GTPase binding"
##                     "PTB domain binding"
##                     "CCR10 chemokine receptor binding"
##                     "GBD domain binding"
##                     "CCR1 chemokine receptor binding"
##                     "retinoic acid receptor activity"
##                     "histone pre-mRNA DCP binding"
##                     "Ral GTPase binding"
##                     "cysteine-type endopeptidase activity"
##                     "peptide YY receptor activity"
##                     "cyclin-dependent protein serine/threonine kinase regulator activity"
```

```
##                       "calcium channel regulator activity"
##                       "activating transcription factor binding"
##                       "NFAT protein binding"
##                       "signal recognition particle binding"
##                       "protein kinase B binding"
##                       "transmembrane receptor protein tyrosine phosphatase activity"
##                       "Wnt-protein binding"
##                       "MRF binding"
##                       "histone demethylase activity"
##                       "AT DNA binding"
##                       "kinetochore binding"
##                       "RNA strand annealing activity"
##                       "ubiquitin-ubiquitin ligase activity"
##                       "cytokine receptor activity"
##                       "patched binding"
##                       "nucleic acid binding"
##                       "protein serine/threonine/tyrosine kinase activity"
##                       "non-membrane spanning protein tyrosine phosphatase activity"
##                       NA
##                       "alpha2-adrenergic receptor activity"
##                       "poly(G) binding"
##                       "thioesterase binding"
##                       "peptide-lysine-N-acetyltransferase activity"
##                       "coreceptor activity"
##                       "extracellular matrix structural constituent"
##                       "lysophosphatidic acid binding"
##                       "voltage-gated calcium channel activity"
##                       "nucleoside-triphosphatase activity"
##                       "mu-type opioid receptor binding"
##                       "methyl-CpG binding"
##                       "pancreatic polypeptide receptor activity"
##                       "phospholipase A2 inhibitor activity"
##                       "microtubule minus-end binding"
##                       "LRR domain binding"
##                       "aryl hydrocarbon receptor binding"
##                       "DNA topoisomerase binding"
##                       "CD8 receptor binding"
##                       "bradykinin receptor activity"
##                       "dynein heavy chain binding"
##                       "C2H2 zinc finger domain binding"
##                       "CD4 receptor binding"
##                       "heterotrimeric G-protein binding"
##                       "prostaglandin E receptor activity"
##                       "cytoskeletal adaptor activity"
##                       "dynein light chain binding"
##                       "cannabinoid receptor activity"
##                       "low-density lipoprotein particle receptor activity"
##                       "RNA polymerase II complex binding"
##                       "histamine receptor activity"
##                       "G protein-coupled adenosine receptor activity"
##                       "co-SMAD binding"
##                       "lysine N-acetyltransferase activity, acting on acetyl phosphate as donor"
##                       "endothelin B receptor binding"
##                       "apolipoprotein A-I receptor binding"
```

```
##                     "clathrin heavy chain binding"
##                     "cargo receptor activity"
##                     "alpha-actinin binding"
##                     "platelet-derived growth factor receptor binding"
##                     "neuropeptide Y receptor activity"
##                     "MHC class II receptor activity"
##                     "protein tyrosine kinase inhibitor activity"
##                     "RNA polymerase II regulatory region DNA binding"
##                     "RS domain binding"
##                     "pre-mRNA 3'-splice site binding"
##                     "serine-type endopeptidase inhibitor activity"
##                     "ATP-dependent 3'-5' DNA helicase activity"
##                     "distal enhancer DNA-binding transcription activator activity, RNA polymerase II-sp
##                     "calcium-dependent phospholipid binding"
##                     NA
##                     "ATP-dependent RNA helicase activity"
##                     "dopamine neurotransmitter receptor activity, coupled via Gi/Go"
##                     "scavenger receptor activity"
##                     "syntaxin binding"
##                     "neuromedin U receptor activity"
##                     "neuromedin U binding"
##                     "collagen binding"
##                     "U2 snRNA binding"
##                     "G-rich strand telomeric DNA binding"
##                     "1-phosphatidylinositol-3-kinase regulator activity"
##                     "endopeptidase inhibitor activity"
##                     "mediator complex binding"
##                     "receptor ligand activity"
##                     "chromo shadow domain binding"
##                     "alkylglycerophosphoethanolamine phosphodiesterase activity"
##                     "RNA helicase activity"
##                     "7SK snRNA binding"
##                     "dynein light intermediate chain binding"
##                     "RNA polymerase I CORE element sequence-specific DNA binding"
##                     "histone binding"
##                     "translation regulator activity"
##                     "Notch binding"
##                     "opioid receptor activity"
##                     "ubiquitin-protein transferase activator activity"
##                     "primary miRNA binding"
##                     "growth factor receptor binding"
##                     "G-protein beta-subunit binding"
##                     "gamma-catenin binding"
##                     "RNA stem-loop binding"
##                     "bHLH transcription factor binding"
##                     "SUMO binding"
##                     "type 2A serotonin receptor binding"
##                     "histone-lysine N-methyltransferase activity"
##                     "sulfotransferase activity"
##                     "dopamine binding"
##                     "phosphatidylserine binding"
##                     "microtubule binding"
##                     "alpha-1B adrenergic receptor binding"
##                     "chloride channel inhibitor activity"
```

```
##                    "neuropilin binding"
##                    "protein deacetylase activity"
##                    "U1 snRNA binding"
##                    "WW domain binding"
##                    "N6-methyladenosine-containing RNA binding"
##                    "pre-mRNA intronic binding"
##                    "snRNA binding"
##                    "somatostatin receptor activity"
##                    "transforming growth factor beta receptor, pathway-specific cytoplasmic mediator a
##                    "protein kinase inhibitor activity"
##                    "transforming growth factor beta binding"
##                    "microfilament motor activity"
##                    "Rho GDP-dissociation inhibitor binding"
##                    "protein kinase activator activity"
##                    "acetyltransferase activity"
##                    "actin filament binding"
##                    "N-formyl peptide receptor activity"
##                    "deacetylase activity"
##                    "mRNA 3'-UTR AU-rich region binding"
##                    "fibroblast growth factor receptor binding"
##                    "vasopressin receptor activity"
##                    "DEAD/H-box RNA helicase binding"
##                    "CXCR3 chemokine receptor binding"
##                    "protein binding, bridging"
##                    "5'-3' exonuclease activity"
##                    "Krueppel-associated box domain binding"
##                    "transmembrane receptor protein tyrosine kinase adaptor activity"
##                    "thrombin-activated receptor activity"
##                    "insulin-like growth factor receptor binding"
##                    "peptide N-acetyltransferase activity"
##                    "protein phosphorylated amino acid binding"
##                    "T cell receptor binding"
##                    "core promoter sequence-specific DNA binding"
##                    "I-SMAD binding"
##                    "sphingosine-1-phosphate receptor activity"
##                    "transcription coactivator binding"
##                    "structural constituent of nuclear pore"
##                    "chemokine receptor binding"
##                    "miRNA binding"
##                    "ATP-dependent DNA helicase activity"
##                    "thyroid hormone receptor binding"
##                    "protein serine/threonine kinase activity"
##                    "proline-rich region binding"
##                    "RNA polymerase binding"
##                    "histone deacetylase binding"
##                    "sequence-specific mRNA binding"
##                    "neurotrophin TRKA receptor binding"
##                    "frizzled binding"
##                    "AU-rich element binding"
##                    "importin-alpha family protein binding"
##                    "structural constituent of muscle"
##                    "immunoglobulin receptor binding"
##                    "C-X-C chemokine receptor activity"
##                    "transmembrane signaling receptor activity"
```

```
##                     "receptor tyrosine kinase binding"
##                     "sequence-specific double-stranded DNA binding"
##                     "ATP-dependent microtubule motor activity, plus-end-directed"
##                     "ubiquitin protein ligase activity"
##                     "nuclear receptor binding"
##                     "protein-containing complex scaffold activity"
##                     "ATP-dependent 3'-5' RNA helicase activity"
##                     "G protein-coupled acetylcholine receptor activity"
##                     "ubiquitin ligase inhibitor activity"
##                     "clathrin adaptor activity"
##                     "phosphatidylinositol 3-kinase regulatory subunit binding"
##                     "SMAD binding"
##                     "protein kinase activity"
##                     "cyclin-dependent protein serine/threonine kinase activity"
##                     "leucine zipper domain binding"
##                     "nucleosomal DNA binding"
##                     "SNAP receptor activity"
##                     "spectrin binding"
##                     "transmembrane-ephrin receptor activity"
##                     "pre-mRNA binding"
##                     "mRNA 3'-UTR binding"
##                     "telomeric DNA binding"
##                     "glutamate receptor activity"
##                     "epidermal growth factor receptor binding"
##                     "actin-dependent ATPase activity"
##                     "G protein-coupled purinergic nucleotide receptor activity"
##                     "single-stranded DNA binding"
##                     "peptide hormone receptor binding"
##                     "growth factor activity"
##                     "galanin receptor activity"
##                     "U1 snRNP binding"
##                     "antigen binding"
##                     "RNA polymerase II distal enhancer sequence-specific DNA binding"
##                     "motor activity"
##                     "fibroblast growth factor binding"
##                     "chemoattractant activity"
##                     "mRNA 5'-UTR binding"
##                     "methylated histone binding"
##                     "gamma-tubulin binding"
##                     "phosphatidylinositol 3-kinase binding"
##                     "serotonin binding"
##                     "phosphatidylinositol phospholipase C activity"
##                     "microtubule plus-end binding"
##                     "cyclin binding"
##                     "lysophosphatidic acid receptor activity"
##                     "protein phosphatase 2A binding"
##                     "protein self-association"
##                     "protein C-terminus binding"
##                     "insulin receptor substrate binding"
##                     "histone deacetylase activity"
##                     "chromatin DNA binding"
##                     "chemokine receptor activity"
##                     "taste receptor activity"
##                     "single-stranded RNA binding"
```

```
##                      "neuropeptide receptor activity"
##                      "RNA polymerase II activity"
##                      "insulin receptor binding"
##                      "beta-catenin binding"
##                      "nuclear hormone receptor binding"
##                      "SH2 domain binding"
##                      "protein phosphatase binding"
##                      "signaling receptor binding"
##                      "CCR chemokine receptor binding"
##                      "G-protein alpha-subunit binding"
##                      "1-phosphatidylinositol-3-kinase activity"
##                      "histone acetyltransferase binding"
##                      "neuropeptide hormone activity"
##                      "double-stranded DNA binding"
##                      "transcription coregulator activity"
##                      "G-protein beta/gamma-subunit complex binding"
##                      "type 1 angiotensin receptor binding"
##                      "hormone activity"
##                      "proximal promoter DNA-binding transcription activator activity, RNA polymerase II-
##                      "RNA binding"
##                      "vitamin D receptor binding"
##                      "mRNA binding"
##                      "nuclear receptor transcription coactivator activity"
##                      "microtubule motor activity"
##                      "G protein-coupled peptide receptor activity"
##                      "phosphotyrosine residue binding"
##                      "non-membrane spanning protein tyrosine kinase activity"
##                      "NF-kappaB binding"
##                      "protein tyrosine kinase activity"
##                      "damaged DNA binding"
##                      "calcium-dependent protein binding"
##                      "proximal promoter sequence-specific DNA binding"
##                      "transcription regulatory region DNA binding"
##                      "RNA polymerase II regulatory region sequence-specific DNA binding"
##                      "C-C chemokine binding"
##                      "heparin binding"
##                      "androgen receptor binding"
##                      "chemokine binding"
##                      "C-C chemokine receptor activity"
##                      "phosphatidylinositol-4,5-bisphosphate 3-kinase activity"
##                      "Ras guanyl-nucleotide exchange factor activity"
##                      "proximal promoter DNA-binding transcription repressor activity, RNA polymerase II-
##                      "signaling receptor activity"
##                      "RNA polymerase II repressing transcription factor binding"
##                      "ephrin receptor binding"
##                      "zinc ion binding"
##                      "peptide hormone binding"
##                      "transcription regulatory region sequence-specific DNA binding"
##                      "RNA polymerase II transcription factor binding"
##                      "SH3/SH2 adaptor activity"
##                      "neuropeptide binding"
##                      "G protein-coupled serotonin receptor activity"
##                      "DNA-binding transcription activator activity, RNA polymerase II-specific"
##                      "SH3 domain binding"
```

```
##                    "neurotransmitter receptor activity"
##                    "transcription coactivator activity"
##                    "metal ion binding"
##                    "protein kinase binding"
##                    "bitter taste receptor activity"
##                    "transcription corepressor activity"
##                    "promoter-specific chromatin binding"
##                    "sequence-specific DNA binding"
##                    "chemokine activity"
##                    "ubiquitin-protein transferase activity"
##                    "transcription factor binding"
##                    "RNA polymerase II proximal promoter sequence-specific DNA binding"
##                    "protein binding"
##                    "chromatin binding"
##                    "DNA-binding transcription factor activity"
##                    "DNA binding"
##                    "G protein-coupled receptor activity"
##                    "DNA-binding transcription factor activity, RNA polymerase II-specific"
##
## mf.enriched.terms "zscore"  "obs"   "mean"    "std"
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##                   "65.388"  "286"   "19.86"   "4.07"
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##                   "26.118"  "219"   "49.44"   "6.492"
##                   "23.037"  "76"    "8.15"    "2.945"
##                   "22.671"  "53"    "4.76"    "2.128"
##                   "22.594"  "57"    "5.91"    "2.261"
##                   "21.738"  "233"   "67.26"   "7.625"
##                   "21.271"  "61"    "6.91"    "2.543"
##                   "20.389"  "33"    "2.29"    "1.506"
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##                   "20.316"  "34"    "2.85"    "1.533"
##                   "19.915"  "51"    "4.83"    "2.318"
##                   "19.882"  "92"    "14.48"   "3.899"
##                   "19.611"  "34"    "3.13"    "1.574"
##                   "19.118"  "432"   "176.46"  "13.366"
##                   "18.836"  "179"   "45.21"   "7.103"
##                   "18.52"   "82"    "13.99"   "3.672"
##                   "18.371"  "211"   "60.51"   "8.192"
##                   "18.075"  "43"    "5.76"    "2.06"
##                   "18.075"  "43"    "5.76"    "2.06"
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##                   "18.05"   "185"   "54.3"    "7.241"
##                   "17.89"   "24"    "1.79"    "1.241"
##                   "17.483"  "90"    "19.88"   "4.011"
##                   "17.262"  "296"   "125.26"  "9.891"
##                   "16.948"  "90"    "15.5"    "4.396"
```

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##                      "16.53"   "30"     "2.74"     "1.649"
##                      "15.548"  "45"     "5.58"     "2.535"
##                      "15.381"  "1707"   "1157.45"  "35.728"
##                      "15.359"  "40"     "5.12"     "2.271"
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##                      "14.497"  "1230"   "791.01"   "30.281"
##                      "14.411"  "140"    "41.21"    "6.855"
##                      "13.668"  "113"    "35.58"    "5.664"
##                      "13.605"  "1498"   "1060.47"  "32.16"
##                      "13.511"  "18"     "1.55"     "1.218"
##                      "13.293"  "152"    "51.92"    "7.529"
##                      "13.09"   "21"     "3.24"     "1.357"
##                      "13.019"  "22"     "2.57"     "1.492"
##                      "12.63"   "13"     "0.37"     "0.677"
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##                      "12.286"  "34"     "5.29"     "2.337"
##                      "12.26"   "50"     "10.9"     "3.189"
##                      "12.036"  "42"     "9.73"     "2.681"
##                      "11.936"  "151"    "59.83"    "7.638"
##                      "11.855"  "246"    "113.75"   "11.156"
##                      "11.785"  "61"     "14.21"    "3.97"
##                      "11.366"  "153"    "73.41"    "7.002"
##                      "11.331"  "97"     "33.18"    "5.632"
##                      "11.012"  "879"    "604.34"   "24.942"
##                      "10.923"  "240"    "128.19"   "10.236"
##                      "10.845"  "44"     "11.25"    "3.02"
##                      "10.806"  "20"     "2.46"     "1.623"
##                      "10.726"  "55"     "12.85"    "3.93"
##                      "10.632"  "174"    "82.33"    "8.622"
##                      "10.605"  "67"     "22.15"    "4.229"
##                      "10.605"  "67"     "22.15"    "4.229"
##                      "10.605"  "67"     "22.15"    "4.229"
##                      "10.518"  "117"    "45.36"    "6.811"
##                      "10.436"  "51"     "12.98"    "3.643"
##                      "10.315"  "40"     "8.28"     "3.075"
##                      "10.15"   "707"    "493.43"   "21.042"
##                      "10.028"  "53"     "17.06"    "3.584"
##                      "9.982"   "101"    "39.15"    "6.196"
##                      "9.96"    "50"     "13.7"     "3.645"
##                      "9.95"    "101"    "45.12"    "5.616"
##                      "9.893"   "65"     "20.09"    "4.54"
##                      "9.874"   "1250"   "887.82"   "36.682"
##                      "9.837"   "61"     "17.07"    "4.466"
##                      "9.699"   "64"     "22.81"    "4.247"
##                      "9.676"   "156"    "75.45"    "8.325"
##                      "9.634"   "4916"   "4223.32"  "71.898"
##                      "9.491"   "33"     "7.8"      "2.655"
##                      "9.49"    "26"     "5.58"     "2.152"
##                      "9.473"   "41"     "10.85"    "3.183"
##                      "9.368"   "45"     "15.88"    "3.108"
##                      "9.318"   "650"    "447.96"   "21.683"
##                      "9.279"   "25"     "5.81"     "2.068"
##                      "9.279"   "25"     "5.81"     "2.068"
##                      "9.277"   "42"     "12.07"    "3.226"
```

```
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##                      "9.253"   "788"   "532.55"  "27.606"
##                      "9.217"   "48"    "14.03"   "3.686"
##                      "9.201"   "92"    "37.36"   "5.938"
##                      "9.193"   "72"    "27.05"   "4.889"
##                      "9.16"    "90"    "38.19"   "5.656"
##                      "9.083"   "180"   "92.71"   "9.61"
##                      "9.01"    "10"    "0.99"    "0.904"
##                      "8.893"   "147"   "78.54"   "7.698"
##                      "8.858"   "49"    "13.47"   "4.011"
##                      "8.843"   "18"    "3.72"    "1.615"
##                      "8.797"   "59"    "20.15"   "4.416"
##                      "8.469"   "58"    "20.38"   "4.442"
##                      "8.395"   "40"    "11.39"   "3.408"
##                      "8.337"   "35"    "10.85"   "2.897"
##                      "8.315"   "43"    "12"      "3.728"
##                      "8.255"   "633"   "429.76"  "24.619"
##                      "8.194"   "48"    "16.85"   "3.802"
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##                      "8.141"   "62"    "23.84"   "4.688"
##                      "8.061"   "96"    "44.98"   "6.329"
##                      "8.045"   "177"   "94.96"   "10.198"
##                      "8.043"   "275"   "176.05"  "12.303"
##                      "7.994"   "68"    "25.92"   "5.264"
##                      "7.964"   "15"    "2.86"    "1.524"
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##                      "7.848"   "27"    "7.14"    "2.531"
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##                      "7.682"   "50"    "18.78"   "4.064"
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##                      "7.568"   "41"    "14.39"   "3.516"
##                      "7.552"   "201"   "124.19"  "10.171"
##                      "7.505"   "30"    "8.36"    "2.883"
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##                      "7.374"   "49"    "18.71"   "4.108"
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##                      "7.181"   "64"    "29.85"   "4.755"
##                      "7.181"   "64"    "29.85"   "4.755"
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##                      "7.125"   "64"    "28.73"   "4.95"
##                      "7.12"    "8"     "0.88"    "0.795"
##                      "7.031"   "698"   "542.85"  "22.067"
##                      "7.013"   "26"    "7.99"    "2.568"
```

```
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##                     "6.853"  "241"  "154.58"  "12.611"
##                     "6.846"  "44"   "15.58"   "4.152"
##                     "6.827"  "12"   "2.47"    "1.396"
##                     "6.794"  "28"   "9.42"    "2.735"
##                     "6.75"   "29"   "7.94"    "3.12"
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##                     "6.726"  "27"   "8.89"    "2.693"
##                     "6.664"  "21"   "5.94"    "2.26"
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##                     "6.601"  "8"    "0.98"    "1.063"
##                     "6.601"  "8"    "0.98"    "1.063"
##                     "6.596"  "24"   "7.69"    "2.473"
##                     "6.562"  "34"   "11.47"   "3.433"
##                     "6.557"  "66"   "31.79"   "5.217"
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##                     "6.51"   "44"   "18.14"   "3.972"
##                     "6.489"  "28"   "9.18"    "2.9"
##                     "6.458"  "29"   "9.77"    "2.978"
##                     "6.453"  "110"  "56.09"   "8.355"
##                     "6.4"    "49"   "21.16"   "4.35"
##                     "6.387"  "30"   "10.96"   "2.981"
##                     "6.378"  "29"   "9.84"    "3.004"
##                     "6.369"  "97"   "51.28"   "7.179"
##                     "6.355"  "97"   "50.15"   "7.372"
##                     "6.349"  "30"   "9.87"    "3.171"
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##                     "6.323"  "19"   "5.4"     "2.151"
##                     "6.31"   "7"    "0.69"    "0.873"
##                     "6.29"   "449"  "342.93"  "16.863"
##                     "6.266"  "11"   "2.03"    "1.432"
##                     "6.256"  "57"   "28.24"   "4.597"
##                     "6.238"  "14"   "3.64"    "1.661"
##                     "6.194"  "65"   "34.39"   "4.942"
##                     "6.19"   "81"   "40.62"   "6.524"
##                     "6.179"  "32"   "12.85"   "3.099"
##                     "6.163"  "54"   "25.4"    "4.641"
##                     "6.131"  "13"   "2.79"    "1.665"
##                     "6.092"  "12"   "2.59"    "1.545"
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##                     "6.048"  "14"   "3.25"    "1.777"
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##                     "6.043"  "38"   "15.74"   "3.683"
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##                     "6.027"  "8"    "1.18"    "1.132"
##                     "5.995"  "27"   "10.72"   "2.716"
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##                     "5.98"   "6"    "0.02"    "0.141"
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```

```
##                     "5.95"   "6"     "0.05"    "0.219"
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##                     "5.878"  "229"   "159.34"  "11.852"
##                     "5.875"  "7"     "0.98"    "1.025"
##                     "5.857"  "18"    "5.38"    "2.155"
##                     "5.843"  "27"    "8.96"    "3.088"
##                     "5.84"   "30"    "10.8"    "3.288"
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##                     "5.822"  "330"   "240.9"   "15.303"
##                     "5.801"  "23"    "7.52"    "2.668"
##                     "5.801"  "27"    "10.19"   "2.898"
##                     "5.774"  "33"    "14.46"   "3.211"
##                     "5.769"  "29"    "10.75"   "3.163"
##                     "5.763"  "12"    "3.05"    "1.553"
##                     "5.753"  "31"    "12.47"   "3.221"
##                     "5.749"  "152"   "99.27"   "9.172"
##                     "5.736"  "9"     "1.88"    "1.241"
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##                     "5.689"  "12"    "3.08"    "1.568"
##                     "5.688"  "12"    "2.52"    "1.667"
##                     "5.688"  "12"    "2.52"    "1.667"
##                     "5.687"  "113"   "64.84"   "8.468"
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##                     "5.653"  "129"   "83.2"    "8.102"
##                     "5.624"  "22"    "6.51"    "2.754"
##                     "5.573"  "29"    "11.87"   "3.074"
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##                     "5.57"   "6"     "0.43"    "0.624"
##                     "5.57"   "6"     "0.43"    "0.624"
##                     "5.557"  "29"    "11.44"   "3.16"
##                     "5.557"  "29"    "11.44"   "3.16"
##                     "5.553"  "27"    "10.39"   "2.991"
##                     "5.548"  "16"    "4.6"     "2.055"
##                     "5.54"   "22"    "7.19"    "2.673"
##                     "5.52"   "35"    "14.12"   "3.783"
##                     "5.511"  "82"    "44.34"   "6.833"
##                     "5.494"  "357"   "279.54"  "14.1"
##                     "5.474"  "29"    "11.03"   "3.283"
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##                     "5.474"  "29"    "11.94"   "3.117"
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##                     "5.331"  "14"    "4.13"    "1.851"
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##                     "5.277"  "12"    "3"       "1.706"
##                     "5.258"  "23"    "8.54"    "2.75"
```

```
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##                      "5.174"   "8"      "1.79"      "1.2"
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##                      "5.096"   "11"     "2.94"      "1.582"
##                      "5.066"   "28"     "11.75"     "3.208"
##                      "5.047"   "27"     "10.45"     "3.279"
##                      "5.045"   "24"     "9.49"      "2.876"
##                      "4.987"   "183"    "127.62"    "11.104"
##                      "4.974"   "17"     "5.7"       "2.272"
##                      "4.968"   "36"     "14.74"     "4.28"
##                      "4.953"   "12"     "2.96"      "1.825"
##                      "4.942"   "144"    "97.91"     "9.326"
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##                      "4.92"    "20"     "6.33"      "2.778"
##                      "4.91"    "19"     "6.74"      "2.497"
##                      "4.904"   "31"     "13.85"     "3.497"
##                      "4.902"   "31"     "13.44"     "3.583"
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##                      "4.86"    "16"     "5.22"      "2.218"
##                      "4.842"   "6"      "1.12"      "1.008"
##                      "4.819"   "20"     "7.67"      "2.559"
##                      "4.776"   "6"      "1.11"      "1.024"
##                      "4.776"   "6"      "1.11"      "1.024"
##                      "4.767"   "121"    "78.8"      "8.852"
##                      "4.756"   "275"    "214.3"     "12.764"
##                      "4.722"   "34"     "16.89"     "3.623"
##                      "4.715"   "21"     "8.11"      "2.734"
##                      "4.715"   "21"     "8.11"      "2.734"
##                      "4.715"   "21"     "8.11"      "2.734"
##                      "4.699"   "31"     "13.85"     "3.65"
##                      "4.688"   "66"     "41.46"     "5.235"
##                      "4.684"   "64"     "35.42"     "6.102"
##                      "4.665"   "8"      "1.56"      "1.38"
##                      "4.653"   "31"     "13.79"     "3.699"
##                      "4.629"   "68"     "40.48"     "5.945"
##                      "4.625"   "276"    "207.26"    "14.862"
##                      "4.573"   "143"    "97.83"     "9.878"
##                      "4.571"   "23"     "8.44"      "3.186"
##                      "4.567"   "1800"   "1619.96"   "39.419"
##                      "4.549"   "34"     "16.74"     "3.794"
##                      "4.547"   "17"     "6.51"      "2.307"
##                      "4.543"   "19"     "8.26"      "2.364"
##                      "4.529"   "16"     "5.72"      "2.27"
##                      "4.518"   "32"     "15.56"     "3.639"
##                      "4.515"   "8"      "2.13"      "1.3"
##                      "4.512"   "2288"   "2011.45"   "61.29"
##                      "4.507"   "18"     "6.83"      "2.478"
##                      "4.507"   "18"     "6.83"      "2.478"
##                      "4.507"   "18"     "6.83"      "2.478"
##                      "4.507"   "18"     "6.83"      "2.478"
##                      "4.504"   "21"     "9.22"      "2.615"
```

```
##                      "4.492"  "22"    "8.31"    "3.047"
##                      "4.463"  "82"    "51.84"   "6.758"
##                      "4.46"   "28"    "13.54"   "3.242"
##                      "4.447"  "54"    "32.08"   "4.929"
##                      "4.443"  "34"    "16.23"   "4"
##                      "4.415"  "262"   "197.42"  "14.627"
##                      "4.415"  "39"    "20.85"   "4.111"
##                      "4.4"    "250"   "192.27"  "13.121"
##                      "4.355"  "18"    "7.78"    "2.347"
##                      "4.355"  "38"    "20.16"   "4.097"
##                      "4.34"   "62"    "36.5"    "5.875"
##                      "4.321"  "6"     "1.15"    "1.123"
##                      "4.279"  "104"   "68.82"   "8.221"
##                      "4.279"  "13"    "4.01"    "2.101"
##                      "4.278"  "17"    "6.14"    "2.539"
##                      "4.275"  "36"    "19.1"    "3.953"
##                      "4.273"  "36"    "19.09"   "3.957"
##                      "4.268"  "28"    "13.74"   "3.341"
##                      "4.267"  "51"    "29.45"   "5.05"
##                      "4.26"   "5"     "0.74"    "0.86"
##                      "4.21"   "5"     "0.79"    "0.935"
##                      "4.21"   "5"     "0.79"    "0.935"
##                      "4.193"  "31"    "16.47"   "3.465"
##                      "4.159"  "16"    "5.93"    "2.422"
##                      "4.153"  "14"    "5.31"    "2.092"
##                      "4.153"  "14"    "5.31"    "2.092"
##                      "4.132"  "32"    "17.41"   "3.531"
##                      "4.13"   "5"     "0.87"    "0.872"
##                      "4.13"   "5"     "0.87"    "0.872"
##                      "4.13"   "5"     "0.87"    "0.872"
##                      "4.13"   "5"     "0.87"    "0.872"
##                      "4.13"   "5"     "0.87"    "0.872"
##                      "4.11"   "17"    "6.83"    "2.474"
##                      "4.076"  "12"    "3.9"     "1.987"
##                      "4.073"  "36"    "19.88"   "3.958"
##                      "4.053"  "9"     "2.78"    "1.535"
##                      "4.049"  "21"    "8.44"    "3.102"
##                      "4.043"  "12"    "3.92"    "1.998"
##                      "4.04"   "178"   "134.76"  "10.702"
##                      "4.031"  "19"    "8.74"    "2.545"
##                      "4.01"   "5"     "0.99"    "0.882"
##                      "3.998"  "19"    "7.41"    "2.899"
##                      "3.991"  "15"    "6.15"    "2.217"
##                      "3.974"  "65"    "42.75"   "5.598"
##                      "3.961"  "430"   "355.52"  "18.805"
##                      "3.947"  "34"    "17.95"   "4.066"
##                      "3.946"  "41"    "22.7"    "4.637"
##                      "3.935"  "25"    "11.95"   "3.316"
##                      "3.909"  "7"     "2.09"    "1.256"
##                      "3.89"   "35"    "18.62"   "4.211"
##                      "3.89"   "35"    "18.62"   "4.211"
##                      "3.89"   "35"    "18.62"   "4.211"
##                      "3.89"   "35"    "18.62"   "4.211"
##                      "3.873"  "23"    "10.68"   "3.181"
```

```
##                   "3.866"   "68"    "44.36"   "6.114"
##                   "3.864"   "21"    "10.14"   "2.811"
##                   "3.862"   "6"     "1.46"    "1.176"
##                   "3.836"   "8"     "2.28"    "1.491"
##                   "3.834"   "35"    "18.56"   "4.288"
##                   "3.823"   "60"    "39.82"   "5.279"
##                   "3.814"   "20"    "9.73"    "2.693"
##                   "3.804"   "8"     "2.12"    "1.546"
##                   "3.795"   "66"    "41.37"   "6.49"
##                   "3.787"   "34"    "18.65"   "4.054"
##                   "3.785"   "13"    "5.07"    "2.095"
##                   "3.785"   "13"    "5.07"    "2.095"
##                   "3.785"   "13"    "5.07"    "2.095"
##                   "3.785"   "13"    "5.07"    "2.095"
##                   "3.781"   "8"     "2.1"     "1.56"
##                   "3.776"   "41"    "24.12"   "4.471"
##                   "3.754"   "26"    "12.1"    "3.702"
##                   "3.754"   "8"     "2.05"    "1.585"
##                   "3.737"   "39"    "21.51"   "4.681"
##                   "3.735"   "5"     "1.05"    "1.058"
##                   "3.72"    "4"     "0.28"    "0.514"
##                   "3.713"   "5"     "1.18"    "1.029"
##                   "3.713"   "5"     "1.18"    "1.029"
##                   "3.707"   "24"    "11.92"   "3.259"
##                   "3.698"   "69"    "45"      "6.49"
##                   "3.69"    "4"     "0.31"    "0.545"
##                   "3.69"    "4"     "0.31"    "0.545"
##                   "3.687"   "50"    "32.64"   "4.709"
##                   "3.677"   "16"    "7.25"    "2.38"
##                   "3.652"   "13"    "4.38"    "2.36"
##                   "3.648"   "49"    "29.62"   "5.312"
##                   "3.63"    "15"    "6.6"     "2.314"
##                   "3.605"   "24"    "12.17"   "3.282"
##                   "3.599"   "11"    "3.91"    "1.97"
##                   "3.586"   "81"    "56.49"   "6.835"
##                   "3.585"   "65"    "44.29"   "5.778"
##                   "3.584"   "14"    "6.11"    "2.201"
##                   "3.583"   "39"    "23.81"   "4.24"
##                   "3.571"   "62"    "39.82"   "6.211"
##                   "3.567"   "13"    "4.71"    "2.324"
##                   "3.55"    "4"     "0.45"    "0.672"
##                   "3.535"   "67"    "45.82"   "5.992"
##                   "3.513"   "15"    "6.85"    "2.32"
##                   "3.5"     "19"    "8.97"    "2.866"
##                   "3.487"   "13"    "5.04"    "2.283"
##                   "3.481"   "9"     "3.35"    "1.623"
##                   "3.473"   "34"    "19.61"   "4.144"
##                   "3.457"   "24"    "12.08"   "3.449"
##                   "3.453"   "85"    "60.02"   "7.233"
##                   "3.45"    "4"     "0.55"    "0.702"
##                   "3.45"    "4"     "0.55"    "0.702"
##                   "3.447"   "113"   "84.52"   "8.263"
##                   "3.43"    "4"     "0.57"    "0.756"
##                   "3.428"   "104"   "73.77"   "8.819"
```

```
##                       "3.421"  "35"    "19"      "4.677"
##                       "3.421"  "35"    "19"      "4.677"
##                       "3.42"   "4"     "0.58"    "0.669"
##                       "3.412"  "36"    "21.05"   "4.382"
##                       "3.411"  "22"    "11.13"   "3.187"
##                       "3.407"  "40"    "23.83"   "4.746"
##                       "3.404"  "9"     "2.81"    "1.819"
##                       "3.397"  "5"     "1.47"    "1.039"
##                       "3.392"  "130"   "96.64"   "9.835"
##                       "3.364"  "34"    "19.83"   "4.212"
##                       "3.359"  "7"     "2.11"    "1.456"
##                       "3.359"  "35"    "19.16"   "4.716"
##                       "3.356"  "5"     "1.24"    "1.12"
##                       "3.355"  "10"    "3.85"    "1.833"
##                       "3.355"  "10"    "3.85"    "1.833"
##                       "3.352"  "8"     "3.25"    "1.417"
##                       "3.352"  "16"    "7.47"    "2.544"
##                       "3.326"  "30"    "16.71"   "3.996"
##                       "3.325"  "6"     "1.94"    "1.221"
##                       "3.309"  "58"    "38.66"   "5.845"
##                       "3.281"  "65"    "43.85"   "6.445"
##                       "3.256"  "4"     "0.74"    "1.001"
##                       "3.254"  "16"    "7.88"    "2.496"
##                       "3.253"  "39"    "24.64"   "4.414"
##                       "3.249"  "19"    "9.52"    "2.918"
##                       "3.229"  "37"    "22.23"   "4.575"
##                       "3.21"   "65"    "47.23"   "5.536"
##                       "3.208"  "71"    "51.31"   "6.138"
##                       "3.204"  "87"    "64.39"   "7.057"
##                       "3.179"  "204"   "165.39"  "12.144"
##                       "3.17"   "4"     "0.83"    "0.853"
##                       "3.16"   "8"     "2.8"     "1.645"
##                       "3.16"   "8"     "2.8"     "1.645"
##                       "3.16"   "8"     "2.8"     "1.645"
##                       "3.156"  "11"    "4.63"    "2.018"
##                       "3.124"  "11"    "4.72"    "2.01"
##                       "3.112"  "10"    "3.85"    "1.977"
##                       "3.112"  "10"    "3.85"    "1.977"
##                       "3.112"  "10"    "3.85"    "1.977"
##                       "3.112"  "10"    "3.85"    "1.977"
##                       "3.11"   "65"    "46.03"   "6.099"
##                       "3.104"  "19"    "9.35"    "3.109"
##                       "3.068"  "82"    "60.32"   "7.067"
##                       "3.062"  "229"   "188.97"  "13.074"
##                       "3.031"  "18"    "9.33"    "2.861"
##                       "3.023"  "10"    "3.45"    "2.167"
##                       "3.012"  "8"     "2.72"    "1.753"
##                       "3.006"  "43"    "26.71"   "5.418"
##                       "3.002"  "5"     "1.55"    "1.149"
##                       "3.002"  "93"    "68.19"   "8.264"
##                       "3"      "11"    "4.81"    "2.063"
##                       "2.996"  "85"    "62.26"   "7.59"
##                       "2.994"  "8"     "2.91"    "1.7"
##                       "2.992"  "13"    "5.88"    "2.38"
```

```
##                  "2.972"  "38"   "24.58"  "4.515"
##                  "2.96"   "4"    "1.04"   "0.942"
##                  "2.959"  "32"   "19.58"  "4.198"
##                  "2.945"  "19"   "10.88"  "2.757"
##                  "2.94"   "4"    "1.06"   "0.962"
##                  "2.922"  "20"   "10.7"   "3.183"
##                  "2.912"  "24"   "13.16"  "3.722"
##                  "2.912"  "236"  "196.05" "13.72"
##                  "2.907"  "67"   "48.69"  "6.298"
##                  "2.884"  "82"   "62.02"  "6.928"
##                  "2.881"  "5"    "1.49"   "1.219"
##                  "2.876"  "26"   "15.56"  "3.63"
##                  "2.863"  "10"   "3.67"   "2.211"
##                  "2.861"  "101"  "75.2"   "9.016"
##                  "2.858"  "194"  "155.62" "13.431"
##                  "2.846"  "20"   "11.39"  "3.025"
##                  "2.835"  "11"   "4.99"   "2.12"
##                  "2.835"  "11"   "4.99"   "2.12"
##                  "2.828"  "22"   "12.99"  "3.186"
##                  "2.826"  "9"    "3.65"   "1.893"
##                  "2.804"  "60"   "43.58"  "5.855"
##                  "2.804"  "450"  "403.24" "16.674"
##                  "2.802"  "12"   "5.55"   "2.302"
##                  "2.8"    "4"    "1.2"    "0.91"
##                  "2.794"  "13"   "6.02"   "2.498"
##                  "2.781"  "5"    "1.6"    "1.223"
##                  "2.774"  "4"    "1.01"   "1.078"
##                  "2.766"  "49"   "33.74"  "5.517"
##                  "2.764"  "5"    "1.4"    "1.303"
##                  "2.757"  "54"   "39.02"  "5.433"
##                  "2.755"  "17"   "8.77"   "2.988"
##                  "2.752"  "11"   "5.1"    "2.144"
##                  "2.752"  "11"   "5.1"    "2.144"
##                  "2.73"   "24"   "14.4"   "3.516"
##                  "2.72"   "4"    "1.28"   "0.911"
##                  "2.72"   "4"    "1.28"   "0.911"
##                  "2.72"   "4"    "1.28"   "0.911"
##                  "2.703"  "31"   "19.98"  "4.077"
##                  "2.7"    "4"    "1.3"    "0.937"
##                  "2.68"   "8"    "3.65"   "1.623"
##                  "2.678"  "16"   "8.59"   "2.767"
##                  "2.664"  "49"   "32.43"  "6.22"
##                  "2.658"  "6"    "2.09"   "1.471"
##                  "2.656"  "26"   "15.81"  "3.837"
##                  "2.652"  "10"   "4.42"   "2.104"
##                  "2.64"   "3"    "0.36"   "0.612"
##                  "2.636"  "10"   "4.17"   "2.211"
##                  "2.636"  "24"   "14.37"  "3.653"
##                  "2.633"  "11"   "5.56"   "2.066"
##                  "2.633"  "11"   "5.56"   "2.066"
##                  "2.629"  "10"   "4.2"    "2.207"
##                  "2.626"  "6"    "2.22"   "1.44"
##                  "2.62"   "3"    "0.38"   "0.528"
##                  "2.618"  "114"  "88.56"  "9.717"
```

```
##                      "2.61"   "3"     "0.39"     "0.618"
##                      "2.604"  "13"    "6.22"     "2.604"
##                      "2.585"  "11"    "5.16"     "2.26"
##                      "2.584"  "13"    "6.4"      "2.554"
##                      "2.58"   "3"     "0.42"     "0.638"
##                      "2.567"  "924"   "848.94"   "29.24"
##                      "2.562"  "37"    "25.76"    "4.388"
##                      "2.548"  "27"    "17.34"    "3.791"
##                      "2.546"  "18"    "9.86"     "3.197"
##                      "2.544"  "7"     "3.05"     "1.553"
##                      "2.544"  "7"     "3.05"     "1.553"
##                      "2.539"  "169"   "141.11"   "10.986"
##                      "2.532"  "23"    "14.6"     "3.318"
##                      "2.517"  "99"    "78.02"    "8.336"
##                      "2.514"  "15"    "7.7"      "2.904"
##                      "2.509"  "208"   "176.17"   "12.687"
##                      "2.496"  "84"    "65.22"    "7.523"
##                      "2.496"  "16"    "8.72"     "2.917"
##                      "2.495"  "8"     "3.71"     "1.719"
##                      "2.494"  "11"    "4.97"     "2.418"
##                      "2.494"  "44"    "30.09"    "5.578"
##                      "2.492"  "18"    "9.95"     "3.23"
##                      "2.49"   "926"   "850.6"    "30.277"
##                      "2.489"  "97"    "76.41"    "8.272"
##                      "2.482"  "4"     "1.2"      "1.128"
##                      "2.48"   "3"     "0.52"     "0.703"
##                      "2.475"  "16"    "8.39"     "3.074"
##                      "2.474"  "215"   "181.55"   "13.519"
##                      "2.468"  "40"    "26.81"    "5.344"
##                      "2.451"  "17"    "10.47"    "2.665"
##                      "2.448"  "15"    "8.22"     "2.769"
##                      "2.445"  "5"     "1.79"     "1.313"
##                      "2.435"  "12"    "6.16"     "2.398"
##                      "2.435"  "12"    "6.16"     "2.398"
##                      "2.432"  "72"    "54.61"    "7.149"
##                      "2.424"  "65"    "48.87"    "6.656"
##                      "2.387"  "11"    "5.75"     "2.199"
##                      "2.387"  "5"     "1.84"     "1.324"
##                      "2.381"  "55"    "39.71"    "6.422"
##                      "2.38"   "3"     "0.62"     "0.722"
##                      "2.32"   "3"     "0.68"     "0.863"
##                      "2.32"   "3"     "0.68"     "0.863"
##                      "2.318"  "127"   "106.03"   "9.047"
##                      "2.308"  "6"     "2.59"     "1.478"
##                      "2.308"  "6"     "2.59"     "1.478"
##                      "2.308"  "6"     "2.59"     "1.478"
##                      "2.308"  "6"     "2.59"     "1.478"
##                      "2.307"  "10"    "4.56"     "2.358"
##                      "2.264"  "39"    "27.72"    "4.983"
##                      "2.262"  "6"     "2.43"     "1.578"
##                      "2.26"   "6"     "2.42"     "1.584"
##                      "2.259"  "4"     "1.41"     "1.147"
##                      "2.255"  "15"    "8.75"     "2.772"
##                      "2.221"  "6"     "2.6"      "1.531"
```

```
##                   "2.219"  "92"    "73.13"   "8.503"
##                   "2.211"  "12"    "6.43"    "2.52"
##                   "2.205"  "60"    "44.82"   "6.885"
##                   "2.197"  "8"     "3.43"    "2.08"
##                   "2.192"  "464"   "402.61"  "28.006"
##                   "2.175"  "36"    "24.76"   "5.168"
##                   "2.155"  "8"     "4.19"    "1.768"
##                   "2.151"  "6"     "2.58"    "1.59"
##                   "2.151"  "6"     "2.42"    "1.665"
##                   "2.146"  "11"    "5.96"    "2.348"
##                   "2.136"  "14"    "7.7"     "2.949"
##                   "2.136"  "20"    "12.94"   "3.305"
##                   "2.136"  "20"    "12.94"   "3.305"
##                   "2.12"   "81"    "65.19"   "7.456"
##                   "2.114"  "31"    "21.64"   "4.428"
##                   "2.101"  "6"     "2.45"    "1.69"
##                   "2.1"    "16"    "9.42"    "3.134"
##                   "2.092"  "15"    "8.58"    "3.069"
##                   "2.085"  "36"    "25.28"   "5.141"
##                   "2.07"   "3"     "0.93"    "0.998"
##                   "2.056"  "5"     "2.1"     "1.411"
##                   "2.056"  "41"    "29.62"   "5.536"
##                   "2.044"  "10"    "5.38"    "2.26"
##                   "2.044"  "10"    "5.38"    "2.26"
##                   "2.041"  "7"     "3.4"     "1.764"
##                   "2.03"   "3"     "0.97"    "0.87"
##                   "2.029"  "52"    "40.1"    "5.866"
##                   "2.02"   "3"     "0.98"    "0.91"
##                   "2.016"  "7"     "3.33"    "1.821"
##                   "2.016"  "7"     "3.33"    "1.821"
##                   "2.016"  "7"     "3.33"    "1.821"
##                   "2.016"  "7"     "3.33"    "1.821"
##                   "2.016"  "7"     "3.33"    "1.821"
##                   "2.005"  "9"     "5.07"    "1.96"
##                   "2.004"  "5"     "1.96"    "1.517"
##                   "2"      "63"    "48.32"   "7.341"
##                   "1.995"  "52"    "40.28"   "5.876"
##                   "1.992"  "52"    "40.19"   "5.93"
##                   "1.99"   "2"     "0.01"    "0.1"
##                   "1.986"  "74"    "58.48"   "7.814"
##                   "1.983"  "370"   "330.38"  "19.983"
##                   "1.981"  "15"    "9.85"    "2.599"
##                   "1.98"   "440"   "403"     "18.69"
##                   "1.976"  "52"    "40.44"   "5.849"
##                   "1.971"  "6"     "3.17"    "1.436"
##                   "1.97"   "4"     "1.63"    "1.203"
##                   "1.963"  "49"    "37.51"   "5.853"
##                   "1.956"  "6"     "2.83"    "1.621"
##                   "1.952"  "16"    "10.24"   "2.951"
##                   "1.943"  "15"    "9.42"    "2.872"
##                   "1.943"  "20"    "13.39"   "3.402"
##                   "1.94"   "2"     "0.06"    "0.239"
##                   "1.938"  "3"     "0.95"    "1.058"
##                   "1.934"  "6"     "2.54"    "1.789"
```

```
##                    "1.93"    "2"      "0.07"      "0.256"
##                    "1.916"   "6"      "2.82"      "1.66"
##                    "1.91"    "2"      "0.09"      "0.321"
##                    "1.91"    "2"      "0.09"      "0.288"
##                    "1.907"   "4"      "1.48"      "1.322"
##                    "1.859"   "9"      "5.25"      "2.017"
##                    "1.854"   "30"     "21.56"     "4.551"
##                    "1.853"   "7"      "3.62"      "1.825"
##                    "1.849"   "5"      "2.16"      "1.536"
##                    "1.844"   "12"     "7.25"      "2.576"
##                    "1.84"    "2"      "0.16"      "0.368"
##                    "1.835"   "36"     "26.4"      "5.232"
##                    "1.83"    "2"      "0.17"      "0.378"
##                    "1.824"   "7"      "3.72"      "1.798"
##                    "1.813"   "8"      "4.67"      "1.837"
##                    "1.809"   "4"      "1.69"      "1.277"
##                    "1.802"   "25"     "16.99"     "4.446"
##                    "1.799"   "6"      "2.81"      "1.774"
##                    "1.78"    "2"      "0.22"      "0.416"
##                    "1.774"   "6"      "2.97"      "1.708"
##                    "1.773"   "98"     "82.49"     "8.748"
##                    "1.773"   "3"      "1"         "1.128"
##                    "1.767"   "13"     "8.24"      "2.694"
##                    "1.752"   "14"     "8.64"      "3.06"
##                    "1.752"   "44"     "33.95"     "5.736"
##                    "1.75"    "2"      "0.25"      "0.479"
##                    "1.749"   "386"    "355.08"    "17.679"
##                    "1.748"   "13"     "7.59"      "3.095"
##                    "1.746"   "22"     "15.95"     "3.465"
##                    "1.743"   "12"     "7.47"      "2.599"
##                    "1.736"   "12"     "7.55"      "2.564"
##                    "1.727"   "6"      "2.97"      "1.755"
##                    "1.725"   "8"      "4.78"      "1.867"
##                    "1.723"   "6"      "3"         "1.741"
##                    "1.72"    "2"      "0.28"      "0.552"
##                    "1.719"   "19"     "12.43"     "3.822"
##                    "1.718"   "35"     "26.42"     "4.993"
##                    "1.713"   "39"     "29.69"     "5.436"
##                    "1.71"    "34"     "25.21"     "5.139"
##                    "1.692"   "19"     "13.13"     "3.469"
##                    "1.692"   "34"     "25.81"     "4.84"
##                    "1.689"   "20"     "13.99"     "3.558"
##                    "1.674"   "7"      "3.81"      "1.905"
##                    "1.674"   "41"     "31.04"     "5.949"
##                    "1.674"   "111"    "95.08"     "9.509"
##                    "1.671"   "3056"   "2967.68"   "52.859"
##                    "1.67"    "5"      "2.41"      "1.551"
##                    "1.662"   "6"      "3.06"      "1.769"
##                    "1.66"    "2"      "0.34"      "0.655"
##                    "1.66"    "24"     "17.04"     "4.192"
##                    "1.66"    "2"      "0.34"      "0.555"
##                    "1.659"   "7"      "3.92"      "1.857"
##                    "1.644"   "8"      "4.46"      "2.153"
##                    "1.644"   "24"     "17.94"     "3.687"
```

```
##                      "1.644"   "41"    "32.1"     "5.415"
##                      "1.635"   "136"   "119.15"   "10.305"
##                      "1.627"   "13"    "8.33"     "2.871"
##                      "1.622"   "3"     "1.22"     "1.097"
##                      "1.614"   "11"    "7.06"     "2.44"
##                      "1.612"   "6"     "2.99"     "1.867"
##                      "1.61"    "3"     "1.15"     "1.149"
##                      "1.61"    "6"     "3.25"     "1.708"
##                      "1.602"   "8"     "4.52"     "2.172"
##                      "1.6"     "2"     "0.4"      "0.636"
##                      "1.596"   "3"     "1.21"     "1.122"
##                      "1.593"   "66"    "54.64"    "7.13"
##                      "1.59"    "2"     "0.41"     "0.588"
##                      "1.583"   "6"     "3.11"     "1.825"
##                      "1.575"   "44"    "34.86"    "5.801"
##                      "1.567"   "18"    "12.47"    "3.529"
##                      "1.566"   "4"     "1.83"     "1.386"
##                      "1.56"    "60"    "49.51"    "6.723"
##                      "1.55"    "2"     "0.45"     "0.626"
##                      "1.543"   "29"    "22.64"    "4.121"
##                      "1.53"    "2"     "0.47"     "0.731"
##                      "1.526"   "3"     "1.31"     "1.107"
##                      "1.521"   "52"    "42.81"    "6.043"
##                      "1.513"   "4"     "1.94"     "1.362"
##                      "1.51"    "2"     "0.49"     "0.659"
##                      "1.495"   "11"    "7.12"     "2.595"
##                      "1.49"    "2"     "0.51"     "0.628"
##                      "1.49"    "2"     "0.51"     "0.628"
##                      "1.49"    "2"     "0.51"     "0.628"
##                      "1.487"   "15"    "10.47"    "3.047"
##                      "1.465"   "14"    "9.23"     "3.256"
##                      "1.464"   "11"    "7.15"     "2.63"
##                      "1.46"    "2"     "0.54"     "0.658"
##                      "1.457"   "34"    "26.31"    "5.278"
##                      "1.454"   "4"     "2.07"     "1.328"
##                      "1.454"   "4"     "2.07"     "1.328"
##                      "1.454"   "4"     "2.07"     "1.328"
##                      "1.454"   "4"     "2.07"     "1.328"
##                      "1.454"   "4"     "2.07"     "1.328"
##                      "1.44"    "2"     "0.56"     "0.783"
##                      "1.439"   "9"     "5.52"     "2.418"
##                      "1.439"   "8"     "4.91"     "2.147"
##                      "1.435"   "29"    "22.82"    "4.307"
##                      "1.434"   "5"     "2.71"     "1.597"
##                      "1.432"   "35"    "27.78"    "5.042"
##                      "1.422"   "62"    "50.98"    "7.749"
##                      "1.412"   "9"     "5.62"     "2.394"
##                      "1.408"   "23"    "17.44"    "3.95"
##                      "1.408"   "4"     "2.09"     "1.357"
##                      "1.397"   "169"   "153.42"   "11.155"
##                      "1.394"   "3"     "1.37"     "1.169"
##                      "1.371"   "3"     "1.51"     "1.087"
##                      "1.371"   "8"     "5.29"     "1.976"
##                      "1.355"   "46"    "37.76"    "6.082"
```

```
##                      "1.354"  "12"    "8"       "2.954"
##                      "1.354"  "5"     "2.82"    "1.61"
##                      "1.34"   "2"     "0.66"    "0.742"
##                      "1.34"   "2"     "0.66"    "0.781"
##                      "1.34"   "2"     "0.66"    "0.781"
##                      "1.34"   "2"     "0.66"    "0.742"
##                      "1.31"   "2"     "0.69"    "0.787"
##                      "1.305"  "73"    "62.38"   "8.139"
##                      "1.3"    "2"     "0.7"     "0.937"
##                      "1.3"    "2"     "0.7"     "0.937"
##                      "1.3"    "2"     "0.7"     "0.937"
##                      "1.294"  "27"    "21.26"   "4.437"
##                      "1.281"  "94"    "83.1"    "8.51"
##                      "1.28"   "2"     "0.72"    "0.911"
##                      "1.27"   "2"     "0.73"    "0.839"
##                      "1.27"   "2"     "0.73"    "0.827"
##                      "1.263"  "127"   "115.13"  "9.396"
##                      "1.248"  "3"     "1.46"    "1.234"
##                      "1.247"  "76"    "65.98"   "8.038"
##                      "1.24"   "2"     "0.76"    "0.866"
##                      "1.23"   "2"     "0.77"    "0.92"
##                      "1.224"  "37"    "30.37"   "5.415"
##                      "1.22"   "2"     "0.78"    "0.949"
##                      "1.21"   "2"     "0.79"    "0.957"
##                      "1.205"  "3"     "1.61"    "1.154"
##                      "1.192"  "8"     "5.45"    "2.139"
##                      "1.191"  "6"     "3.66"    "1.965"
##                      "1.191"  "13"    "9.46"    "2.973"
##                      "1.171"  "11"    "7.6"     "2.902"
##                      "1.164"  "4"     "2.19"    "1.555"
##                      "1.16"   "2"     "0.84"    "0.918"
##                      "1.16"   "2"     "0.84"    "0.918"
##                      "1.154"  "25"    "19.82"   "4.489"
##                      "1.152"  "3"     "1.58"    "1.232"
##                      "1.151"  "3"     "1.67"    "1.155"
##                      "1.147"  "8"     "5.29"    "2.363"
##                      "1.147"  "11"    "7.77"    "2.817"
##                      "1.146"  "9"     "6.09"    "2.539"
##                      "1.139"  "66"    "58.12"   "6.918"
##                      "1.13"   "2"     "0.87"    "0.917"
##                      "1.121"  "5"     "3.12"    "1.677"
##                      "1.121"  "5"     "3.12"    "1.677"
##                      "1.115"  "14"    "10.45"   "3.183"
##                      "1.111"  "3"     "1.55"    "1.306"
##                      "1.111"  "6"     "3.78"    "1.998"
##                      "1.105"  "26"    "20.78"   "4.726"
##                      "1.09"   "19"    "14.91"   "3.753"
##                      "1.087"  "3"     "1.65"    "1.242"
##                      "1.083"  "4"     "2.38"    "1.496"
##                      "1.08"   "14"    "10.42"   "3.316"
##                      "1.078"  "3"     "1.74"    "1.169"
##                      "1.07"   "2"     "0.93"    "0.967"
##                      "1.07"   "2"     "0.93"    "0.967"
##                      "1.069"  "69"    "60.72"   "7.747"
```

```
##                     "1.061"   "34"    "28.52"  "5.163"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.05"    "2"     "0.95"   "0.892"
##                     "1.044"   "6"     "4.06"   "1.858"
##                     "1.019"   "75"    "66.62"  "8.223"
##                     "1.019"   "29"    "24.18"  "4.732"
##                     "1.015"   "3"     "1.78"   "1.203"
##                     "1.013"   "7"     "4.75"   "2.222"
##                     "1.01"    "2"     "0.99"   "0.99"
##                     "1.007"   "23"    "18.69"  "4.28"
##                     "1"       "1"     "0"      "0"
##                     "1"       "1"     "0"      "0"
##                     "1"       "1"     "0"      "0"
##                     "1"       "1"     "0"      "0"
##                     "0.997"   "4"     "2.34"   "1.665"
##                     "0.995"   "16"    "12.62"  "3.399"
##                     "0.986"   "6"     "4.06"   "1.969"
##                     "0.983"   "42"    "35.8"   "6.307"
##                     "0.98"    "1"     "0.02"   "0.141"
##                     "0.98"    "1"     "0.02"   "0.141"
##                     "0.977"   "12"    "9.14"   "2.927"
##                     "0.972"   "13"    "9.84"   "3.25"
##                     "0.971"   "5"     "3.21"   "1.844"
##                     "0.97"    "1"     "0.03"   "0.223"
##                     "0.96"    "1"     "0.04"   "0.197"
##                     "0.96"    "1"     "0.04"   "0.197"
##                     "0.952"   "6"     "3.95"   "2.153"
##                     "0.95"    "1"     "0.05"   "0.219"
##                     "0.95"    "1"     "0.05"   "0.219"
##                     "0.95"    "1"     "0.05"   "0.219"
##                     "0.95"    "1"     "0.05"   "0.219"
##                     "0.95"    "1"     "0.05"   "0.219"
##                     "0.94"    "1"     "0.06"   "0.239"
##                     "0.94"    "1"     "0.06"   "0.239"
##                     "0.94"    "1"     "0.06"   "0.239"
##                     "0.93"    "1"     "0.07"   "0.256"
##                     "0.926"   "12"    "9.17"   "3.055"
##                     "0.92"    "1"     "0.08"   "0.273"
##                     "0.92"    "1"     "0.08"   "0.273"
##                     "0.916"   "3"     "1.8"    "1.31"
##                     "0.914"   "14"    "11.06"  "3.216"
##                     "0.913"   "17"    "13.94"  "3.351"
##                     "0.91"    "1"     "0.09"   "0.288"
```

```
##                      "0.91"    "1"     "0.09"     "0.288"
##                      "0.91"    "1"     "0.09"     "0.288"
##                      "0.908"   "2"     "1"        "1.101"
##                      "0.898"   "5"     "3.42"     "1.759"
##                      "0.898"   "5"     "3.42"     "1.759"
##                      "0.897"   "3"     "1.74"     "1.404"
##                      "0.895"   "4"     "2.62"     "1.543"
##                      "0.89"    "1"     "0.11"     "0.345"
##                      "0.89"    "1"     "0.11"     "0.345"
##                      "0.89"    "1"     "0.11"     "0.314"
##                      "0.89"    "1"     "0.11"     "0.314"
##                      "0.89"    "1"     "0.11"     "0.345"
##                      "0.887"   "21"    "17.78"    "3.631"
##                      "0.881"   "3"     "1.79"     "1.373"
##                      "0.88"    "1"     "0.12"     "0.356"
##                      "0.87"    "1"     "0.13"     "0.338"
##                      "0.87"    "1"     "0.13"     "0.393"
##                      "0.87"    "1"     "0.13"     "0.393"
##                      "0.87"    "1"     "0.13"     "0.338"
##                      "0.87"    "1"     "0.13"     "0.338"
##                      "0.869"   "8"     "6.08"     "2.21"
##                      "0.86"    "1"     "0.14"     "0.427"
##                      "0.86"    "1"     "0.14"     "0.427"
##                      "0.855"   "2"     "1.09"     "1.065"
##                      "0.854"   "123"   "114.76"   "9.643"
##                      "0.851"   "9"     "6.95"     "2.409"
##                      "0.85"    "1"     "0.15"     "0.386"
##                      "0.848"   "8"     "5.94"     "2.428"
##                      "0.841"   "57"    "51.06"    "7.059"
##                      "0.837"   "4"     "2.63"     "1.637"
##                      "0.836"   "86"    "79.83"    "7.376"
##                      "0.834"   "3"     "1.84"     "1.391"
##                      "0.83"    "1"     "0.17"     "0.403"
##                      "0.823"   "8"     "6.08"     "2.334"
##                      "0.821"   "7"     "5.18"     "2.217"
##                      "0.82"    "1"     "0.18"     "0.479"
##                      "0.82"    "1"     "0.18"     "0.458"
##                      "0.811"   "8"     "5.83"     "2.674"
##                      "0.81"    "10"    "7.66"     "2.889"
##                      "0.806"   "14"    "11.06"    "3.648"
##                      "0.805"   "2"     "1.18"     "1.019"
##                      "0.804"   "4"     "2.61"     "1.729"
##                      "0.8"     "2"     "1.2"      "0.995"
##                      "0.798"   "8"     "6.2"      "2.256"
##                      "0.795"   "8"     "6.18"     "2.289"
##                      "0.79"    "1"     "0.21"     "0.456"
##                      "0.772"   "252"   "240.89"   "14.384"
##                      "0.764"   "3"     "1.95"     "1.373"
##                      "0.76"    "1"     "0.24"     "0.515"
##                      "0.754"   "17"    "14.48"    "3.341"
##                      "0.754"   "15"    "12.67"    "3.091"
##                      "0.752"   "80"    "73.85"    "8.174"
##                      "0.751"   "14"    "11.62"    "3.168"
##                      "0.75"    "1"     "0.25"     "0.479"
```

```
##                      "0.75"  "1"    "0.25"    "0.5"
##                      "0.745" "5"    "3.55"    "1.946"
##                      "0.745" "5"    "3.55"    "1.946"
##                      "0.743" "6"    "4.44"    "2.1"
##                      "0.74"  "1"    "0.26"    "0.525"
##                      "0.738" "3"    "1.97"    "1.396"
##                      "0.737" "10"   "7.96"    "2.767"
##                      "0.73"  "1"    "0.27"    "0.566"
##                      "0.73"  "1"    "0.27"    "0.566"
##                      "0.726" "47"   "42.58"   "6.087"
##                      "0.718" "13"   "10.61"   "3.327"
##                      "0.71"  "1"    "0.29"    "0.574"
##                      "0.71"  "1"    "0.29"    "0.518"
##                      "0.709" "2"    "1.2"     "1.128"
##                      "0.7"   "3"    "2.12"    "1.258"
##                      "0.699" "51"   "46.25"   "6.799"
##                      "0.686" "2"    "1.26"    "1.079"
##                      "0.681" "2"    "1.27"    "1.072"
##                      "0.678" "2"    "1.22"    "1.151"
##                      "0.669" "169"  "160.42"  "12.816"
##                      "0.664" "2"    "1.27"    "1.1"
##                      "0.66"  "1"    "0.34"    "0.639"
##                      "0.66"  "1"    "0.34"    "0.572"
##                      "0.66"  "1"    "0.34"    "0.572"
##                      "0.655" "4"    "2.95"    "1.604"
##                      "0.65"  "1"    "0.35"    "0.592"
##                      "0.64"  "1"    "0.36"    "0.612"
##                      "0.632" "6"    "4.82"    "1.866"
##                      "0.626" "7"    "5.52"    "2.363"
##                      "0.624" "3"    "2.16"    "1.346"
##                      "0.62"  "1"    "0.38"    "0.599"
##                      "0.62"  "1"    "0.38"    "0.565"
##                      "0.62"  "1"    "0.38"    "0.678"
##                      "0.62"  "1"    "0.38"    "0.616"
##                      "0.62"  "1"    "0.38"    "0.599"
##                      "0.62"  "1"    "0.38"    "0.565"
##                      "0.619" "13"   "10.92"   "3.36"
##                      "0.61"  "1"    "0.39"    "0.567"
##                      "0.61"  "1"    "0.39"    "0.53"
##                      "0.61"  "1"    "0.39"    "0.634"
##                      "0.604" "2"    "1.35"    "1.077"
##                      "0.6"   "1"    "0.4"     "0.636"
##                      "0.6"   "1"    "0.4"     "0.682"
##                      "0.6"   "1"    "0.4"     "0.586"
##                      "0.575" "4"    "3.01"    "1.72"
##                      "0.57"  "1"    "0.43"    "0.714"
##                      "0.565" "43"   "39.37"   "6.424"
##                      "0.56"  "1"    "0.44"    "0.592"
##                      "0.56"  "1"    "0.44"    "0.625"
##                      "0.557" "2"    "1.35"    "1.167"
##                      "0.555" "3"    "2.2"     "1.443"
##                      "0.54"  "1"    "0.46"    "0.626"
##                      "0.533" "9"    "7.47"    "2.869"
##                      "0.532" "3"    "2.2"     "1.504"
```

```
##                      "0.532"  "97"    "91.99"   "9.42"
##                      "0.53"   "19"    "16.97"   "3.831"
##                      "0.527"  "4"     "3.13"    "1.649"
##                      "0.524"  "4"     "3.15"    "1.623"
##                      "0.52"   "1"     "0.48"    "0.717"
##                      "0.52"   "4"     "3.11"    "1.711"
##                      "0.52"   "1"     "0.48"    "0.674"
##                      "0.508"  "2"     "1.4"     "1.181"
##                      "0.5"    "1"     "0.5"     "0.659"
##                      "0.49"   "1"     "0.51"    "0.689"
##                      "0.49"   "1"     "0.51"    "0.703"
##                      "0.484"  "30"    "27.42"   "5.334"
##                      "0.48"   "1"     "0.52"    "0.703"
##                      "0.48"   "1"     "0.52"    "0.703"
##                      "0.48"   "1"     "0.52"    "0.731"
##                      "0.474"  "3"     "2.32"    "1.435"
##                      "0.47"   "1"     "0.53"    "0.658"
##                      "0.46"   "1"     "0.54"    "0.822"
##                      "0.458"  "4"     "3.23"    "1.681"
##                      "0.457"  "114"   "109.94"  "8.885"
##                      "0.442"  "9"     "7.84"    "2.624"
##                      "0.44"   "1"     "0.56"    "0.656"
##                      "0.43"   "1"     "0.57"    "0.832"
##                      "0.43"   "1"     "0.57"    "0.756"
##                      "0.429"  "2"     "1.51"    "1.141"
##                      "0.423"  "3"     "2.36"    "1.514"
##                      "0.423"  "3"     "2.36"    "1.514"
##                      "0.409"  "55"    "51.99"   "7.368"
##                      "0.408"  "2"     "1.47"    "1.298"
##                      "0.408"  "2"     "1.47"    "1.298"
##                      "0.408"  "2"     "1.47"    "1.298"
##                      "0.406"  "2"     "1.53"    "1.159"
##                      "0.387"  "2"     "1.5"     "1.291"
##                      "0.384"  "2"     "1.51"    "1.275"
##                      "0.382"  "6"     "5.11"    "2.331"
##                      "0.38"   "1"     "0.62"    "0.789"
##                      "0.38"   "4"     "3.34"    "1.736"
##                      "0.38"   "1"     "0.62"    "0.789"
##                      "0.377"  "3"     "2.38"    "1.644"
##                      "0.37"   "1"     "0.63"    "0.761"
##                      "0.37"   "1"     "0.63"    "0.761"
##                      "0.37"   "1"     "0.63"    "0.761"
##                      "0.37"   "1"     "0.63"    "0.884"
##                      "0.37"   "1"     "0.63"    "0.787"
##                      "0.36"   "1"     "0.64"    "0.759"
##                      "0.36"   "1"     "0.64"    "0.759"
##                      "0.357"  "4"     "3.39"    "1.711"
##                      "0.352"  "2"     "1.6"     "1.137"
##                      "0.35"   "4"     "3.35"    "1.855"
##                      "0.35"   "1"     "0.65"    "0.903"
##                      "0.347"  "22"    "20.48"   "4.384"
##                      "0.343"  "16"    "14.72"   "3.736"
##                      "0.34"   "1"     "0.66"    "0.807"
##                      "0.34"   "1"     "0.66"    "0.934"
```

```
##                      "0.34"    "1"      "0.66"     "0.934"
##                      "0.34"    "1"      "0.66"     "0.807"
##                      "0.33"    "1"      "0.67"     "0.726"
##                      "0.328"   "2"      "1.58"     "1.281"
##                      "0.322"   "2"      "1.62"     "1.179"
##                      "0.318"   "2"      "1.64"     "1.133"
##                      "0.312"   "13"     "11.87"    "3.62"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.309"   "4"      "3.42"     "1.876"
##                      "0.302"   "27"     "25.51"    "4.933"
##                      "0.301"   "2"      "1.66"     "1.13"
##                      "0.3"     "1"      "0.7"      "0.847"
##                      "0.3"     "1"      "0.7"      "0.847"
##                      "0.3"     "1"      "0.7"      "0.759"
##                      "0.289"   "52"     "49.74"    "7.813"
##                      "0.282"   "3"      "2.54"     "1.629"
##                      "0.282"   "4"      "3.51"     "1.738"
##                      "0.282"   "3"      "2.54"     "1.629"
##                      "0.28"    "1"      "0.72"     "0.922"
##                      "0.28"    "1"      "0.72"     "0.842"
##                      "0.28"    "1"      "0.72"     "0.817"
##                      "0.28"    "1"      "0.72"     "0.792"
##                      "0.28"    "1"      "0.72"     "0.889"
##                      "0.275"   "14"     "13.01"    "3.606"
##                      "0.272"   "36"     "34.43"    "5.776"
##                      "0.27"    "1"      "0.73"     "0.952"
##                      "0.27"    "1"      "0.73"     "0.886"
##                      "0.27"    "1"      "0.73"     "0.79"
##                      "0.258"   "12"     "11.12"    "3.406"
##                      "0.25"    "1"      "0.75"     "0.892"
##                      "0.25"    "1"      "0.75"     "0.999"
##                      "0.247"   "1716"   "1704.69"  "45.724"
##                      "0.24"    "1"      "0.76"     "0.78"
##                      "0.24"    "1"      "0.76"     "0.78"
##                      "0.24"    "1"      "0.76"     "0.78"
##                      "0.233"   "3"      "2.66"     "1.458"
##                      "0.231"   "6"      "5.49"     "2.209"
##                      "0.23"    "1"      "0.77"     "0.941"
##                      "0.228"   "136"    "133.4"    "11.385"
##                      "0.225"   "58"     "56.16"    "8.167"
##                      "0.22"    "1"      "0.78"     "0.76"
##                      "0.22"    "43"     "41.5"     "6.834"
##                      "0.216"   "7"      "6.43"     "2.637"
##                      "0.215"   "3"      "2.67"     "1.538"
##                      "0.212"   "5"      "4.57"     "2.026"
##                      "0.21"    "1"      "0.79"     "0.935"
##                      "0.206"   "2"      "1.71"     "1.409"
```

940

```
##                     "0.203"   "5"     "4.56"     "2.171"
##                     "0.2"     "1"     "0.8"      "0.876"
##                     "0.19"    "1"     "0.81"     "0.94"
##                     "0.187"   "544"   "539.95"   "21.69"
##                     "0.181"   "3"     "2.7"      "1.661"
##                     "0.18"    "2"     "1.75"     "1.388"
##                     "0.18"    "1"     "0.82"     "0.783"
##                     "0.176"   "6"     "5.6"      "2.27"
##                     "0.171"   "2"     "1.76"     "1.401"
##                     "0.17"    "1"     "0.83"     "0.829"
##                     "0.17"    "1"     "0.83"     "0.911"
##                     "0.164"   "2"     "1.78"     "1.338"
##                     "0.161"   "31"    "30.16"    "5.226"
##                     "0.16"    "1"     "0.84"     "0.95"
##                     "0.159"   "12"    "11.52"    "3.023"
##                     "0.155"   "8"     "7.61"     "2.518"
##                     "0.154"   "3"     "2.78"     "1.425"
##                     "0.151"   "13"    "12.5"     "3.304"
##                     "0.151"   "4"     "3.72"     "1.859"
##                     "0.143"   "6"     "5.67"     "2.314"
##                     "0.142"   "170"   "168.19"   "12.749"
##                     "0.142"   "9"     "8.58"     "2.962"
##                     "0.14"    "1"     "0.86"     "0.876"
##                     "0.14"    "1"     "0.86"     "0.853"
##                     "0.14"    "1"     "0.86"     "0.876"
##                     "0.14"    "1"     "0.86"     "0.853"
##                     "0.14"    "1"     "0.86"     "0.876"
##                     "0.13"    "1"     "0.87"     "0.825"
##                     "0.13"    "1"     "0.87"     "0.928"
##                     "0.13"    "1"     "0.87"     "0.825"
##                     "0.13"    "1"     "0.87"     "0.971"
##                     "0.13"    "1"     "0.87"     "0.971"
##                     "0.128"   "63"    "61.96"    "8.133"
##                     "0.125"   "2"     "1.83"     "1.364"
##                     "0.12"    "1"     "0.88"     "0.902"
##                     "0.114"   "73"    "72"       "8.801"
##                     "0.11"    "1"     "0.89"     "0.92"
##                     "0.11"    "1"     "0.89"     "0.973"
##                     "0.109"   "20"    "19.52"    "4.423"
##                     "0.105"   "6"     "5.73"     "2.574"
##                     "0.104"   "25"    "24.5"     "4.8"
##                     "0.102"   "2"     "1.86"     "1.378"
##                     "0.101"   "2"     "1.87"     "1.284"
##                     "0.097"   "2"     "1.87"     "1.338"
##                     "0.097"   "2"     "1.87"     "1.338"
##                     "0.096"   "2"     "1.87"     "1.361"
##                     "0.094"   "17"    "16.56"    "4.698"
##                     "0.09"    "1"     "0.91"     "0.965"
##                     "0.09"    "1"     "0.91"     "0.975"
##                     "0.09"    "1"     "0.91"     "0.866"
##                     "0.09"    "1"     "0.91"     "0.975"
##                     "0.089"   "1"     "0.91"     "1.006"
##                     "0.089"   "1"     "0.91"     "1.006"
##                     "0.086"   "4"     "3.82"     "2.086"
```

```
##                         "0.086"   "4"     "3.82"     "2.086"
##                         "0.082"   "3"     "2.87"     "1.587"
##                         "0.082"   "16"    "15.7"     "3.647"
##                         "0.077"   "2"     "1.89"     "1.435"
##                         "0.077"   "2"     "1.89"     "1.435"
##                         "0.07"    "341"   "339.71"   "18.372"
##                         "0.069"   "1"     "0.93"     "1.008"
##                         "0.064"   "15"    "14.76"    "3.758"
##                         "0.063"   "5"     "4.86"     "2.216"
##                         "0.063"   "5"     "4.86"     "2.216"
##                         "0.062"   "4"     "3.88"     "1.924"
##                         "0.059"   "349"   "348.04"   "16.242"
##                         "0.055"   "2"     "1.93"     "1.281"
##                         "0.054"   "19"    "18.78"    "4.044"
##                         "0.05"    "1"     "0.95"     "0.968"
##                         "0.048"   "1"     "0.95"     "1.038"
##                         "0.046"   "52"    "51.69"    "6.705"
##                         "0.044"   "3"     "2.93"     "1.591"
##                         "0.043"   "39"    "38.73"    "6.343"
##                         "0.042"   "12"    "11.86"    "3.349"
##                         "0.04"    "1"     "0.96"     "0.898"
##                         "0.038"   "26"    "25.8"     "5.295"
##                         "0.035"   "8"     "7.9"      "2.89"
##                         "0.029"   "91"    "90.73"    "9.18"
##                         "0.029"   "1"     "0.97"     "1.029"
##                         "0.02"    "1"     "0.98"     "0.887"
##                         "0.02"    "1"     "0.98"     "0.985"
##                         "0.018"   "4"     "3.97"     "1.708"
##                         "0.017"   "11"    "10.94"    "3.601"
##                         "0.016"   "3"     "2.97"     "1.883"
##                         "0.013"   "13"    "12.96"    "3.187"
##                         "0.01"    "1"     "0.99"     "0.937"
##                         "0.01"    "4"     "3.98"     "2.02"
##                         "0.01"    "1"     "0.99"     "0.937"
##                         "0.009"   "1"     "0.99"     "1.159"
##                         "0.009"   "85"    "84.92"    "9.065"
##                         "0"       "0"     "0"        "0"
##                         "0"       "0"     "0"        "0"
##                         "0"       "0"     "0"        "0"
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##                    "0"      "9"      "9"      "2.825"
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##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "1"    "1"      "0.899"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "0"      "0"    "0"      "0"
##                      "-0.007"  "8"   "8.02"   "2.738"
##                      "-0.007"  "12"  "12.02"  "3.028"
##                      "-0.008"  "6"   "6.02"   "2.391"
##                      "-0.009"  "1"   "1.01"   "1.059"
##                      "-0.01"   "0"   "0.01"   "0.1"
##                      "-0.01"   "0"   "0.01"   "0.1"
##                      "-0.01"   "0"   "0.01"   "0.1"
##                      "-0.01"   "0"   "0.01"   "0.1"
##                      "-0.01"   "0"   "0.01"   "0.1"
##                      "-0.01"   "0"   "0.01"   "0.1"
##                      "-0.01"   "0"   "0.01"   "0.1"
```

```
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.01"   "0"    "0.01"    "0.1"
##                      "-0.014"  "36"   "36.08"   "5.715"
##                      "-0.015"  "12"   "12.05"   "3.4"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "1"    "1.02"    "0.974"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "1"    "1.02"    "0.887"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
##                      "-0.02"   "0"    "0.02"    "0.141"
```

```
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "1"  "1.02"  "0.974"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.02"  "0"  "0.02"  "0.141"
##                   "-0.03"  "0"  "0.03"  "0.171"
##                   "-0.03"  "0"  "0.03"  "0.171"
##                   "-0.03"  "0"  "0.03"  "0.171"
##                   "-0.03"  "0"  "0.03"  "0.171"
##                   "-0.03"  "0"  "0.03"  "0.171"
```

```
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.223"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.223"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.171"
##                    "-0.03"   "0"    "0.03"    "0.223"
##                    "-0.037"  "6"    "6.07"    "1.882"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.243"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "1"    "1.04"    "0.994"
##                    "-0.04"   "1"    "1.04"    "0.963"
##                    "-0.04"   "0"    "0.04"    "0.197"
##                    "-0.04"   "0"    "0.04"    "0.197"
```

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```
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "3"     "3.07"     "1.754"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "1"     "1.04"     "0.963"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.04"    "0"     "0.04"     "0.197"
##                      "-0.043"   "72"    "72.36"    "8.39"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.261"
##                      "-0.05"    "2"     "2.07"     "1.402"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.261"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.261"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
##                      "-0.05"    "0"     "0.05"     "0.219"
```

```
##                    "-0.05"   "0"      "0.05"    "0.219"
##                    "-0.05"   "0"      "0.05"    "0.219"
##                    "-0.05"   "0"      "0.05"    "0.219"
##                    "-0.055"  "172"    "172.74"  "13.36"
##                    "-0.059"  "2"      "2.09"    "1.518"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "1"      "1.06"    "1.003"
##                    "-0.06"   "1"      "1.06"    "1.003"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.312"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.278"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.278"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.278"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.239"
##                    "-0.06"   "0"      "0.06"    "0.278"
##                    "-0.067"  "19"     "19.33"   "4.952"
##                    "-0.067"  "1"      "1.07"    "1.047"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.293"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.293"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
##                    "-0.07"   "0"      "0.07"    "0.256"
```

```
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "1"      "1.07"      "0.998"
##                      "-0.07"    "0"      "0.07"      "0.293"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.07"    "0"      "0.07"      "0.256"
##                      "-0.071"   "4"      "4.13"      "1.829"
##                      "-0.077"   "26"     "26.33"     "4.302"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.307"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.307"
##                      "-0.08"    "0"      "0.08"      "0.307"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.307"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.08"    "0"      "0.08"      "0.273"
##                      "-0.081"   "577"    "578.84"    "22.819"
##                      "-0.088"   "19"     "19.41"     "4.652"
##                      "-0.09"    "0"      "0.09"      "0.288"
##                      "-0.09"    "0"      "0.09"      "0.321"
##                      "-0.09"    "0"      "0.09"      "0.288"
##                      "-0.09"    "0"      "0.09"      "0.288"
##                      "-0.09"    "0"      "0.09"      "0.321"
##                      "-0.09"    "0"      "0.09"      "0.321"
##                      "-0.09"    "0"      "0.09"      "0.288"
##                      "-0.09"    "0"      "0.09"      "0.288"
##                      "-0.09"    "0"      "0.09"      "0.288"
##                      "-0.09"    "0"      "0.09"      "0.288"
##                      "-0.09"    "0"      "0.09"      "0.321"
##                      "-0.09"    "0"      "0.09"      "0.321"
##                      "-0.09"    "0"      "0.09"      "0.288"
```

```
##                     "-0.09"   "0"    "0.09"   "0.288"
##                     "-0.09"   "0"    "0.09"   "0.288"
##                     "-0.09"   "0"    "0.09"   "0.321"
##                     "-0.09"   "0"    "0.09"   "0.288"
##                     "-0.09"   "0"    "0.09"   "0.321"
##                     "-0.09"   "0"    "0.09"   "0.288"
##                     "-0.09"   "0"    "0.09"   "0.288"
##                     "-0.09"   "0"    "0.09"   "0.321"
##                     "-0.09"   "0"    "0.09"   "0.288"
##                     "-0.09"   "0"    "0.09"   "0.288"
##                     "-0.096"  "1"    "1.1"    "1.04"
##                     "-0.1"    "0"    "0.1"    "0.333"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.1"    "0"    "0.1"    "0.333"
##                     "-0.1"    "0"    "0.1"    "0.333"
##                     "-0.1"    "0"    "0.1"    "0.333"
##                     "-0.1"    "4"    "4.21"   "2.1"
##                     "-0.1"    "0"    "0.1"    "0.333"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.1"    "6"    "6.25"   "2.488"
##                     "-0.1"    "1"    "1.1"    "0.948"
##                     "-0.1"    "0"    "0.1"    "0.333"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.1"    "0"    "0.1"    "0.333"
##                     "-0.1"    "0"    "0.1"    "0.302"
##                     "-0.103"  "2"    "2.14"   "1.363"
##                     "-0.106"  "4"    "4.19"   "1.785"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.373"
##                     "-0.11"   "0"    "0.11"   "0.345"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.345"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.345"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.345"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.345"
##                     "-0.11"   "0"    "0.11"   "0.399"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
##                     "-0.11"   "0"    "0.11"   "0.314"
```

```
##                     "-0.11"   "0"    "0.11"    "0.314"
##                     "-0.11"   "0"    "0.11"    "0.345"
##                     "-0.11"   "0"    "0.11"    "0.314"
##                     "-0.11"   "0"    "0.11"    "0.314"
##                     "-0.11"   "0"    "0.11"    "0.314"
##                     "-0.11"   "0"    "0.11"    "0.345"
##                     "-0.116"  "1"    "1.12"    "1.037"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.383"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.383"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.356"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.409"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.12"   "0"    "0.12"    "0.327"
##                     "-0.126"  "3"    "3.23"    "1.825"
##                     "-0.127"  "2"    "2.19"    "1.495"
##                     "-0.128"  "99"   "100.14"  "8.919"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "1"    "1.13"    "0.991"
##                     "-0.13"   "0"    "0.13"    "0.367"
##                     "-0.13"   "0"    "0.13"    "0.442"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.338"
##                     "-0.13"   "0"    "0.13"    "0.393"
##                     "-0.134"  "2"    "2.2"     "1.491"
##                     "-0.134"  "1"    "1.14"    "1.045"
##                     "-0.135"  "1"    "1.16"    "1.187"
##                     "-0.135"  "4"    "4.28"    "2.08"
```

```
##                       "-0.138"  "1"    "1.14"   "1.015"
##                       "-0.14"   "0"    "0.14"   "0.377"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.403"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.403"
##                       "-0.14"   "0"    "0.14"   "0.377"
##                       "-0.14"   "0"    "0.14"   "0.403"
##                       "-0.14"   "0"    "0.14"   "0.403"
##                       "-0.14"   "0"    "0.14"   "0.403"
##                       "-0.14"   "0"    "0.14"   "0.377"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.403"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.377"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.14"   "0"    "0.14"   "0.349"
##                       "-0.142"  "2"    "2.19"   "1.339"
##                       "-0.142"  "43"   "43.97"  "6.833"
##                       "-0.143"  "4"    "4.3"    "2.091"
##                       "-0.147"  "1"    "1.17"   "1.155"
##                       "-0.15"   "0"    "0.15"   "0.386"
##                       "-0.15"   "0"    "0.15"   "0.386"
##                       "-0.15"   "0"    "0.15"   "0.359"
##                       "-0.15"   "0"    "0.15"   "0.359"
##                       "-0.15"   "0"    "0.15"   "0.386"
##                       "-0.15"   "0"    "0.15"   "0.386"
##                       "-0.15"   "0"    "0.15"   "0.386"
##                       "-0.15"   "0"    "0.15"   "0.386"
##                       "-0.15"   "0"    "0.15"   "0.359"
##                       "-0.15"   "0"    "0.15"   "0.386"
##                       "-0.15"   "0"    "0.15"   "0.359"
##                       "-0.15"   "0"    "0.15"   "0.359"
##                       "-0.15"   "0"    "0.15"   "0.386"
##                       "-0.15"   "5"    "5.36"   "2.397"
##                       "-0.152"  "3"    "3.26"   "1.709"
##                       "-0.152"  "3"    "3.28"   "1.843"
##                       "-0.153"  "10"   "10.47"  "3.08"
##                       "-0.153"  "10"   "10.47"  "3.08"
##                       "-0.153"  "10"   "10.47"  "3.08"
##                       "-0.157"  "2"    "2.24"   "1.525"
##                       "-0.16"   "0"    "0.16"   "0.368"
##                       "-0.16"   "0"    "0.16"   "0.368"
##                       "-0.16"   "0"    "0.16"   "0.395"
##                       "-0.16"   "0"    "0.16"   "0.368"
```

```
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.368"
##                    "-0.16"    "0"     "0.16"     "0.42"
##                    "-0.16"    "0"     "0.16"     "0.42"
##                    "-0.16"    "0"     "0.16"     "0.368"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "0"     "0.16"     "0.368"
##                    "-0.16"    "0"     "0.16"     "0.465"
##                    "-0.16"    "0"     "0.16"     "0.465"
##                    "-0.16"    "0"     "0.16"     "0.465"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.42"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.368"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "1"     "1.17"     "1.064"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.16"    "0"     "0.16"     "0.395"
##                    "-0.16"    "0"     "0.16"     "0.42"
##                    "-0.16"    "0"     "0.16"     "0.368"
##                    "-0.16"    "0"     "0.16"     "0.368"
##                    "-0.16"    "0"     "0.16"     "0.443"
##                    "-0.17"    "0"     "0.17"     "0.403"
##                    "-0.17"    "0"     "0.17"     "0.378"
##                    "-0.17"    "0"     "0.17"     "0.378"
##                    "-0.17"    "0"     "0.17"     "0.378"
##                    "-0.17"    "0"     "0.17"     "0.428"
##                    "-0.17"    "0"     "0.17"     "0.428"
##                    "-0.17"    "0"     "0.17"     "0.428"
##                    "-0.17"    "0"     "0.17"     "0.378"
##                    "-0.17"    "0"     "0.17"     "0.378"
##                    "-0.17"    "0"     "0.17"     "0.378"
##                    "-0.17"    "0"     "0.17"     "0.428"
##                    "-0.17"    "0"     "0.17"     "0.403"
##                    "-0.17"    "0"     "0.17"     "0.378"
##                    "-0.17"    "0"     "0.17"     "0.378"
##                    "-0.17"    "0"     "0.17"     "0.428"
##                    "-0.17"    "0"     "0.17"     "0.428"
##                    "-0.174"   "5"     "5.38"     "2.182"
##                    "-0.175"   "23"    "23.75"    "4.286"
```

```
##                       "-0.175"   "3"     "3.31"     "1.768"
##                       "-0.179"   "91"    "92.69"    "9.422"
##                       "-0.179"   "26"    "26.93"    "5.194"
##                       "-0.18"    "0"     "0.18"     "0.411"
##                       "-0.18"    "0"     "0.18"     "0.411"
##                       "-0.18"    "0"     "0.18"     "0.411"
##                       "-0.18"    "0"     "0.18"     "0.386"
##                       "-0.18"    "0"     "0.18"     "0.435"
##                       "-0.18"    "0"     "0.18"     "0.386"
##                       "-0.18"    "0"     "0.18"     "0.458"
##                       "-0.18"    "0"     "0.18"     "0.435"
##                       "-0.18"    "0"     "0.18"     "0.435"
##                       "-0.18"    "0"     "0.18"     "0.435"
##                       "-0.18"    "0"     "0.18"     "0.386"
##                       "-0.18"    "0"     "0.18"     "0.435"
##                       "-0.18"    "21"    "21.79"    "4.395"
##                       "-0.18"    "0"     "0.18"     "0.411"
##                       "-0.18"    "0"     "0.18"     "0.411"
##                       "-0.18"    "0"     "0.18"     "0.411"
##                       "-0.18"    "0"     "0.18"     "0.479"
##                       "-0.18"    "0"     "0.18"     "0.411"
##                       "-0.18"    "0"     "0.18"     "0.435"
##                       "-0.18"    "0"     "0.18"     "0.411"
##                       "-0.183"   "135"   "136.82"   "9.947"
##                       "-0.184"   "1"     "1.22"     "1.194"
##                       "-0.184"   "1"     "1.22"     "1.194"
##                       "-0.184"   "1"     "1.22"     "1.194"
##                       "-0.188"   "1"     "1.2"      "1.064"
##                       "-0.19"    "0"     "0.19"     "0.419"
##                       "-0.19"    "0"     "0.19"     "0.394"
##                       "-0.19"    "0"     "0.19"     "0.465"
##                       "-0.19"    "0"     "0.19"     "0.394"
##                       "-0.19"    "0"     "0.19"     "0.394"
##                       "-0.19"    "0"     "0.19"     "0.394"
##                       "-0.19"    "0"     "0.19"     "0.394"
##                       "-0.19"    "0"     "0.19"     "0.486"
##                       "-0.19"    "0"     "0.19"     "0.443"
##                       "-0.19"    "0"     "0.19"     "0.419"
##                       "-0.19"    "0"     "0.19"     "0.419"
##                       "-0.19"    "0"     "0.19"     "0.419"
##                       "-0.19"    "0"     "0.19"     "0.419"
##                       "-0.19"    "0"     "0.19"     "0.419"
##                       "-0.19"    "0"     "0.19"     "0.419"
##                       "-0.19"    "0"     "0.19"     "0.443"
##                       "-0.192"   "1"     "1.21"     "1.094"
##                       "-0.196"   "152"   "154.29"   "11.655"
##                       "-0.196"   "4"     "4.37"     "1.884"
##                       "-0.197"   "50"    "51.37"    "6.947"
##                       "-0.2"     "0"     "0.2"      "0.449"
##                       "-0.2"     "0"     "0.2"      "0.492"
##                       "-0.2"     "0"     "0.2"      "0.402"
##                       "-0.2"     "0"     "0.2"      "0.492"
##                       "-0.2"     "0"     "0.2"      "0.449"
##                       "-0.2"     "0"     "0.2"      "0.449"
```

```
##                           "-0.2"    "0"     "0.2"      "0.426"
##                           "-0.2"    "0"     "0.2"      "0.426"
##                           "-0.2"    "0"     "0.2"      "0.492"
##                           "-0.2"    "0"     "0.2"      "0.426"
##                           "-0.2"    "0"     "0.2"      "0.402"
##                           "-0.2"    "0"     "0.2"      "0.492"
##                           "-0.205"  "3"     "3.38"     "1.857"
##                           "-0.208"  "1"     "1.25"     "1.201"
##                           "-0.21"   "0"     "0.21"     "0.456"
##                           "-0.21"   "0"     "0.21"     "0.456"
##                           "-0.21"   "0"     "0.21"     "0.456"
##                           "-0.21"   "0"     "0.21"     "0.409"
##                           "-0.21"   "0"     "0.21"     "0.433"
##                           "-0.21"   "0"     "0.21"     "0.456"
##                           "-0.21"   "0"     "0.21"     "0.456"
##                           "-0.21"   "0"     "0.21"     "0.409"
##                           "-0.21"   "0"     "0.21"     "0.478"
##                           "-0.21"   "0"     "0.21"     "0.433"
##                           "-0.21"   "0"     "0.21"     "0.456"
##                           "-0.21"   "0"     "0.21"     "0.433"
##                           "-0.21"   "0"     "0.21"     "0.456"
##                           "-0.21"   "0"     "0.21"     "0.478"
##                           "-0.214"  "143"   "145.53"   "11.835"
##                           "-0.22"   "0"     "0.22"     "0.44"
##                           "-0.22"   "0"     "0.22"     "0.462"
##                           "-0.22"   "0"     "0.22"     "0.462"
##                           "-0.22"   "0"     "0.22"     "0.484"
##                           "-0.22"   "0"     "0.22"     "0.504"
##                           "-0.22"   "0"     "0.22"     "0.44"
##                           "-0.22"   "0"     "0.22"     "0.44"
##                           "-0.22"   "0"     "0.22"     "0.44"
##                           "-0.22"   "0"     "0.22"     "0.44"
##                           "-0.22"   "0"     "0.22"     "0.44"
##                           "-0.22"   "0"     "0.22"     "0.44"
##                           "-0.22"   "0"     "0.22"     "0.462"
##                           "-0.222"  "5"     "5.53"     "2.385"
##                           "-0.223"  "1"     "1.24"     "1.074"
##                           "-0.225"  "1"     "1.23"     "1.024"
##                           "-0.226"  "29"    "30.21"    "5.343"
##                           "-0.23"   "0"     "0.23"     "0.446"
##                           "-0.23"   "12"    "12.92"    "3.997"
##                           "-0.23"   "0"     "0.23"     "0.446"
##                           "-0.23"   "0"     "0.23"     "0.446"
##                           "-0.23"   "0"     "0.23"     "0.446"
##                           "-0.23"   "0"     "0.23"     "0.446"
##                           "-0.23"   "0"     "0.23"     "0.446"
##                           "-0.23"   "0"     "0.23"     "0.51"
##                           "-0.23"   "0"     "0.23"     "0.51"
##                           "-0.23"   "0"     "0.23"     "0.423"
##                           "-0.23"   "0"     "0.23"     "0.489"
##                           "-0.23"   "0"     "0.23"     "0.468"
##                           "-0.23"   "0"     "0.23"     "0.468"
##                           "-0.23"   "0"     "0.23"     "0.529"
##                           "-0.23"   "0"     "0.23"     "0.446"
```

```
##                   "-0.23"   "0"    "0.23"    "0.468"
##                   "-0.23"   "0"    "0.23"    "0.423"
##                   "-0.23"   "0"    "0.23"    "0.423"
##                   "-0.23"   "0"    "0.23"    "0.529"
##                   "-0.23"   "0"    "0.23"    "0.446"
##                   "-0.23"   "0"    "0.23"    "0.51"
##                   "-0.23"   "0"    "0.23"    "0.529"
##                   "-0.23"   "0"    "0.23"    "0.446"
##                   "-0.23"   "0"    "0.23"    "0.423"
##                   "-0.23"   "0"    "0.23"    "0.529"
##                   "-0.23"   "0"    "0.23"    "0.529"
##                   "-0.24"   "0"    "0.24"    "0.474"
##                   "-0.24"   "0"    "0.24"    "0.452"
##                   "-0.24"   "0"    "0.24"    "0.553"
##                   "-0.24"   "0"    "0.24"    "0.495"
##                   "-0.24"   "0"    "0.24"    "0.495"
##                   "-0.24"   "0"    "0.24"    "0.495"
##                   "-0.24"   "0"    "0.24"    "0.474"
##                   "-0.25"   "0"    "0.25"    "0.52"
##                   "-0.25"   "0"    "0.25"    "0.52"
##                   "-0.25"   "0"    "0.25"    "0.52"
##                   "-0.25"   "0"    "0.25"    "0.479"
##                   "-0.25"   "0"    "0.25"    "0.5"
##                   "-0.25"   "0"    "0.25"    "0.458"
##                   "-0.25"   "0"    "0.25"    "0.575"
##                   "-0.25"   "0"    "0.25"    "0.479"
##                   "-0.25"   "0"    "0.25"    "0.5"
##                   "-0.25"   "0"    "0.25"    "0.52"
##                   "-0.25"   "0"    "0.25"    "0.479"
##                   "-0.25"   "0"    "0.25"    "0.52"
##                   "-0.251"  "2"    "2.4"     "1.595"
##                   "-0.252"  "23"   "24.11"   "4.413"
##                   "-0.254"  "4"    "4.47"    "1.85"
##                   "-0.254"  "58"   "59.97"   "7.762"
##                   "-0.254"  "10"   "10.85"   "3.344"
##                   "-0.26"   "0"    "0.26"    "0.505"
##                   "-0.26"   "0"    "0.26"    "0.505"
##                   "-0.26"   "0"    "0.26"    "0.525"
##                   "-0.26"   "4"    "4.6"     "2.305"
##                   "-0.26"   "0"    "0.26"    "0.579"
##                   "-0.26"   "0"    "0.26"    "0.543"
##                   "-0.26"   "0"    "0.26"    "0.463"
##                   "-0.26"   "0"    "0.26"    "0.441"
##                   "-0.26"   "0"    "0.26"    "0.441"
##                   "-0.26"   "0"    "0.26"    "0.441"
##                   "-0.26"   "0"    "0.26"    "0.441"
##                   "-0.26"   "0"    "0.26"    "0.525"
##                   "-0.26"   "0"    "0.26"    "0.463"
##                   "-0.26"   "0"    "0.26"    "0.463"
##                   "-0.26"   "0"    "0.26"    "0.505"
##                   "-0.26"   "0"    "0.26"    "0.579"
##                   "-0.27"   "0"    "0.27"    "0.468"
##                   "-0.27"   "0"    "0.27"    "0.51"
##                   "-0.27"   "0"    "0.27"    "0.566"
```

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```
##                   "-0.27"   "0"    "0.27"    "0.468"
##                   "-0.27"   "0"    "0.27"    "0.468"
##                   "-0.27"   "0"    "0.27"    "0.468"
##                   "-0.27"   "0"    "0.27"    "0.489"
##                   "-0.27"   "0"    "0.27"    "0.51"
##                   "-0.27"   "0"    "0.27"    "0.548"
##                   "-0.27"   "0"    "0.27"    "0.529"
##                   "-0.271"  "1"    "1.31"    "1.143"
##                   "-0.271"  "1"    "1.31"    "1.143"
##                   "-0.28"   "0"    "0.28"    "0.552"
##                   "-0.28"   "0"    "0.28"    "0.494"
##                   "-0.28"   "0"    "0.28"    "0.514"
##                   "-0.28"   "0"    "0.28"    "0.57"
##                   "-0.28"   "0"    "0.28"    "0.494"
##                   "-0.28"   "0"    "0.28"    "0.57"
##                   "-0.28"   "0"    "0.28"    "0.533"
##                   "-0.28"   "0"    "0.28"    "0.533"
##                   "-0.284"  "2"    "2.45"    "1.585"
##                   "-0.289"  "1"    "1.35"    "1.209"
##                   "-0.29"   "0"    "0.29"    "0.556"
##                   "-0.29"   "0"    "0.29"    "0.518"
##                   "-0.29"   "0"    "0.29"    "0.518"
##                   "-0.29"   "0"    "0.29"    "0.574"
##                   "-0.29"   "0"    "0.29"    "0.537"
##                   "-0.294"  "4"    "4.65"    "2.208"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "1"    "1.3"     "0.927"
##                   "-0.3"    "0"    "0.3"     "0.56"
##                   "-0.3"    "0"    "0.3"     "0.541"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.503"
##                   "-0.3"    "0"    "0.3"     "0.541"
##                   "-0.301"  "188"  "192.05"  "13.477"
##                   "-0.301"  "13"   "14"      "3.324"
##                   "-0.303"  "10"   "10.92"   "3.034"
##                   "-0.303"  "1"    "1.34"    "1.121"
##                   "-0.305"  "1"    "1.38"    "1.245"
##                   "-0.307"  "1"    "1.35"    "1.14"
##                   "-0.308"  "6"    "6.84"    "2.729"
##                   "-0.31"   "0"    "0.31"    "0.581"
##                   "-0.31"   "0"    "0.31"    "0.581"
##                   "-0.31"   "0"    "0.31"    "0.506"
##                   "-0.31"   "0"    "0.31"    "0.598"
##                   "-0.31"   "0"    "0.31"    "0.563"
##                   "-0.31"   "0"    "0.31"    "0.506"
##                   "-0.311"  "1"    "1.34"    "1.094"
##                   "-0.32"   "0"    "0.32"    "0.584"
##                   "-0.32"   "0"    "0.32"    "0.51"
##                   "-0.32"   "0"    "0.32"    "0.53"
##                   "-0.32"   "0"    "0.32"    "0.548"
##                   "-0.32"   "0"    "0.32"    "0.51"
```

```
##                      "-0.326"  "1"   "1.37"   "1.134"
##                      "-0.33"   "0"   "0.33"   "0.587"
##                      "-0.33"   "0"   "0.33"   "0.604"
##                      "-0.33"   "0"   "0.33"   "0.514"
##                      "-0.33"   "0"   "0.33"   "0.514"
##                      "-0.33"   "0"   "0.33"   "0.514"
##                      "-0.33"   "0"   "0.33"   "0.57"
##                      "-0.33"   "0"   "0.33"   "0.587"
##                      "-0.33"   "0"   "0.33"   "0.587"
##                      "-0.33"   "0"   "0.33"   "0.514"
##                      "-0.33"   "0"   "0.33"   "0.587"
##                      "-0.33"   "0"   "0.33"   "0.493"
##                      "-0.33"   "0"   "0.33"   "0.57"
##                      "-0.33"   "0"   "0.33"   "0.514"
##                      "-0.33"   "0"   "0.33"   "0.57"
##                      "-0.33"   "0"   "0.33"   "0.57"
##                      "-0.332"  "1"   "1.37"   "1.116"
##                      "-0.335"  "8"   "8.97"   "2.897"
##                      "-0.335"  "5"   "5.85"   "2.536"
##                      "-0.336"  "2"   "2.5"    "1.487"
##                      "-0.336"  "2"   "2.5"    "1.487"
##                      "-0.336"  "8"   "8.95"   "2.83"
##                      "-0.34"   "0"   "0.34"   "0.59"
##                      "-0.34"   "0"   "0.34"   "0.67"
##                      "-0.34"   "0"   "0.34"   "0.536"
##                      "-0.34"   "0"   "0.34"   "0.59"
##                      "-0.34"   "0"   "0.34"   "0.536"
##                      "-0.34"   "0"   "0.34"   "0.536"
##                      "-0.34"   "0"   "0.34"   "0.59"
##                      "-0.34"   "0"   "0.34"   "0.623"
##                      "-0.34"   "0"   "0.34"   "0.536"
##                      "-0.343"  "4"   "4.71"   "2.071"
##                      "-0.348"  "4"   "4.7"    "2.013"
##                      "-0.348"  "38"  "39.95"  "5.598"
##                      "-0.35"   "0"   "0.35"   "0.592"
##                      "-0.35"   "0"   "0.35"   "0.609"
##                      "-0.35"   "0"   "0.35"   "0.592"
##                      "-0.35"   "0"   "0.35"   "0.557"
##                      "-0.35"   "0"   "0.35"   "0.592"
##                      "-0.35"   "5"   "5.83"   "2.374"
##                      "-0.35"   "0"   "0.35"   "0.539"
##                      "-0.351"  "1"   "1.43"   "1.225"
##                      "-0.358"  "6"   "6.93"   "2.595"
##                      "-0.36"   "0"   "0.36"   "0.56"
##                      "-0.36"   "0"   "0.36"   "0.628"
##                      "-0.36"   "1"   "1.36"   "0.99"
##                      "-0.36"   "0"   "0.36"   "0.56"
##                      "-0.36"   "0"   "0.36"   "0.578"
##                      "-0.36"   "0"   "0.36"   "0.578"
##                      "-0.366"  "1"   "1.5"    "1.367"
##                      "-0.366"  "2"   "2.58"   "1.584"
##                      "-0.367"  "1"   "1.44"   "1.2"
##                      "-0.37"   "0"   "0.37"   "0.58"
##                      "-0.37"   "0"   "0.37"   "0.597"
```

```
##                    "-0.37"    "0"      "0.37"      "0.63"
##                    "-0.37"    "0"      "0.37"      "0.58"
##                    "-0.37"    "0"      "0.37"      "0.646"
##                    "-0.37"    "0"      "0.37"      "0.58"
##                    "-0.37"    "1"      "1.46"      "1.243"
##                    "-0.37"    "0"      "0.37"      "0.597"
##                    "-0.37"    "0"      "0.37"      "0.614"
##                    "-0.37"    "0"      "0.37"      "0.597"
##                    "-0.37"    "29"     "30.97"     "5.321"
##                    "-0.37"    "0"      "0.37"      "0.544"
##                    "-0.375"   "9"      "10.13"     "3.011"
##                    "-0.375"   "1"      "1.42"      "1.121"
##                    "-0.379"   "2"      "2.56"      "1.479"
##                    "-0.38"    "0"      "0.38"      "0.663"
##                    "-0.38"    "0"      "0.38"      "0.582"
##                    "-0.38"    "0"      "0.38"      "0.678"
##                    "-0.38"    "0"      "0.38"      "0.565"
##                    "-0.382"   "4"      "4.88"      "2.306"
##                    "-0.387"   "1"      "1.43"      "1.112"
##                    "-0.387"   "60"     "62.99"     "7.719"
##                    "-0.39"    "0"      "0.39"      "0.68"
##                    "-0.39"    "0"      "0.39"      "0.618"
##                    "-0.39"    "0"      "0.39"      "0.634"
##                    "-0.39"    "0"      "0.39"      "0.634"
##                    "-0.39"    "0"      "0.39"      "0.584"
##                    "-0.39"    "0"      "0.39"      "0.584"
##                    "-0.39"    "0"      "0.39"      "0.751"
##                    "-0.39"    "0"      "0.39"      "0.567"
##                    "-0.393"   "7"      "8.13"      "2.877"
##                    "-0.393"   "7"      "8.13"      "2.877"
##                    "-0.393"   "7"      "8.13"      "2.877"
##                    "-0.393"   "15"     "16.69"     "4.296"
##                    "-0.395"   "29"     "31.18"     "5.515"
##                    "-0.4"     "0"      "0.4"       "0.62"
##                    "-0.4"     "0"      "0.4"       "0.636"
##                    "-0.4"     "0"      "0.4"       "0.636"
##                    "-0.4"     "0"      "0.4"       "0.62"
##                    "-0.4"     "0"      "0.4"       "0.62"
##                    "-0.4"     "0"      "0.4"       "0.603"
##                    "-0.4"     "0"      "0.4"       "0.532"
##                    "-0.4"     "0"      "0.4"       "0.603"
##                    "-0.4"     "0"      "0.4"       "0.62"
##                    "-0.4"     "0"      "0.4"       "0.62"
##                    "-0.4"     "0"      "0.4"       "0.636"
##                    "-0.4"     "0"      "0.4"       "0.62"
##                    "-0.4"     "0"      "0.4"       "0.636"
##                    "-0.4"     "0"      "0.4"       "0.636"
##                    "-0.405"   "1577"   "1592.89"   "39.197"
##                    "-0.409"   "2"      "2.67"      "1.64"
##                    "-0.41"    "0"      "0.41"      "0.668"
##                    "-0.41"    "0"      "0.41"      "0.621"
##                    "-0.41"    "0"      "0.41"      "0.57"
##                    "-0.413"   "1"      "1.5"       "1.21"
##                    "-0.417"   "2"      "2.68"      "1.632"
```

```
##                    "-0.417"  "4"    "4.99"   "2.372"
##                    "-0.42"   "9"    "10.45"  "3.451"
##                    "-0.42"   "0"    "0.42"   "0.606"
##                    "-0.42"   "0"    "0.42"   "0.654"
##                    "-0.42"   "0"    "0.42"   "0.638"
##                    "-0.42"   "0"    "0.42"   "0.622"
##                    "-0.42"   "0"    "0.42"   "0.572"
##                    "-0.42"   "5"    "6.01"   "2.406"
##                    "-0.42"   "0"    "0.42"   "0.669"
##                    "-0.42"   "0"    "0.42"   "0.669"
##                    "-0.42"   "0"    "0.42"   "0.669"
##                    "-0.42"   "0"    "0.42"   "0.606"
##                    "-0.422"  "12"   "13.58"  "3.745"
##                    "-0.424"  "1"    "1.44"   "1.038"
##                    "-0.426"  "3"    "3.78"   "1.829"
##                    "-0.43"   "0"    "0.43"   "0.573"
##                    "-0.43"   "0"    "0.43"   "0.685"
##                    "-0.43"   "0"    "0.43"   "0.655"
##                    "-0.43"   "0"    "0.43"   "0.624"
##                    "-0.43"   "0"    "0.43"   "0.685"
##                    "-0.43"   "0"    "0.43"   "0.685"
##                    "-0.434"  "1"    "1.55"   "1.266"
##                    "-0.434"  "5"    "6.06"   "2.44"
##                    "-0.436"  "2"    "2.71"   "1.629"
##                    "-0.436"  "2"    "2.71"   "1.629"
##                    "-0.437"  "1"    "1.55"   "1.258"
##                    "-0.439"  "2"    "2.68"   "1.55"
##                    "-0.44"   "0"    "0.44"   "0.625"
##                    "-0.44"   "0"    "0.44"   "0.686"
##                    "-0.44"   "0"    "0.44"   "0.641"
##                    "-0.44"   "0"    "0.44"   "0.715"
##                    "-0.44"   "1"    "1.54"   "1.226"
##                    "-0.44"   "0"    "0.44"   "0.671"
##                    "-0.44"   "0"    "0.44"   "0.592"
##                    "-0.44"   "0"    "0.44"   "0.701"
##                    "-0.44"   "0"    "0.44"   "0.701"
##                    "-0.44"   "0"    "0.44"   "0.715"
##                    "-0.443"  "1"    "1.54"   "1.218"
##                    "-0.446"  "58"   "61.3"   "7.407"
##                    "-0.448"  "3"    "3.85"   "1.898"
##                    "-0.45"   "0"    "0.45"   "0.609"
##                    "-0.45"   "0"    "0.45"   "0.626"
##                    "-0.45"   "0"    "0.45"   "0.687"
##                    "-0.45"   "0"    "0.45"   "0.592"
##                    "-0.45"   "0"    "0.45"   "0.592"
##                    "-0.45"   "0"    "0.45"   "0.672"
##                    "-0.452"  "1"    "1.55"   "1.218"
##                    "-0.454"  "5"    "6.19"   "2.62"
##                    "-0.458"  "3"    "3.89"   "1.943"
##                    "-0.46"   "0"    "0.46"   "0.673"
##                    "-0.46"   "0"    "0.46"   "0.593"
##                    "-0.46"   "0"    "0.46"   "0.673"
##                    "-0.46"   "0"    "0.46"   "0.731"
##                    "-0.46"   "0"    "0.46"   "0.717"
```

```
##                    "-0.46"   "0"    "0.46"    "0.673"
##                    "-0.46"   "0"    "0.46"    "0.758"
##                    "-0.46"   "0"    "0.46"    "0.758"
##                    "-0.46"   "0"    "0.46"    "0.758"
##                    "-0.46"   "0"    "0.46"    "0.658"
##                    "-0.46"   "0"    "0.46"    "0.642"
##                    "-0.46"   "0"    "0.46"    "0.658"
##                    "-0.462"  "1"    "1.58"    "1.257"
##                    "-0.463"  "75"   "79.09"   "8.84"
##                    "-0.465"  "18"   "20.13"   "4.576"
##                    "-0.467"  "10"   "11.59"   "3.403"
##                    "-0.469"  "19"   "21.04"   "4.353"
##                    "-0.469"  "22"   "24.67"   "5.689"
##                    "-0.47"   "0"    "0.47"    "0.594"
##                    "-0.47"   "0"    "0.47"    "0.731"
##                    "-0.47"   "0"    "0.47"    "0.658"
##                    "-0.47"   "0"    "0.47"    "0.688"
##                    "-0.47"   "0"    "0.47"    "0.627"
##                    "-0.47"   "0"    "0.47"    "0.658"
##                    "-0.47"   "0"    "0.47"    "0.674"
##                    "-0.47"   "0"    "0.47"    "0.731"
##                    "-0.47"   "0"    "0.47"    "0.784"
##                    "-0.47"   "0"    "0.47"    "0.703"
##                    "-0.47"   "0"    "0.47"    "0.658"
##                    "-0.47"   "0"    "0.47"    "0.717"
##                    "-0.47"   "0"    "0.47"    "0.703"
##                    "-0.472"  "13"   "14.64"   "3.474"
##                    "-0.474"  "8"    "9.49"    "3.141"
##                    "-0.474"  "8"    "9.49"    "3.141"
##                    "-0.476"  "85"   "89.57"   "9.592"
##                    "-0.476"  "1"    "1.64"    "1.345"
##                    "-0.477"  "2"    "2.84"    "1.762"
##                    "-0.48"   "0"    "0.48"    "0.745"
##                    "-0.48"   "0"    "0.48"    "0.745"
##                    "-0.48"   "0"    "0.48"    "0.745"
##                    "-0.48"   "0"    "0.48"    "0.745"
##                    "-0.48"   "0"    "0.48"    "0.674"
##                    "-0.48"   "0"    "0.48"    "0.745"
##                    "-0.48"   "0"    "0.48"    "0.659"
##                    "-0.48"   "0"    "0.48"    "0.611"
##                    "-0.48"   "0"    "0.48"    "0.797"
##                    "-0.48"   "0"    "0.48"    "0.659"
##                    "-0.481"  "1"    "1.6"     "1.247"
##                    "-0.482"  "1"    "1.57"    "1.183"
##                    "-0.484"  "1"    "1.58"    "1.199"
##                    "-0.484"  "1"    "1.58"    "1.199"
##                    "-0.49"   "0"    "0.49"    "0.703"
##                    "-0.49"   "0"    "0.49"    "0.674"
##                    "-0.49"   "0"    "0.49"    "0.689"
##                    "-0.49"   "0"    "0.49"    "0.674"
##                    "-0.49"   "0"    "0.49"    "0.703"
##                    "-0.49"   "0"    "0.49"    "0.689"
##                    "-0.49"   "0"    "0.49"    "0.628"
##                    "-0.49"   "0"    "0.49"    "0.732"
```

```
##                        "-0.49"    "0"    "0.49"     "0.759"
##                        "-0.49"    "0"    "0.49"     "0.689"
##                        "-0.49"    "0"    "0.49"     "0.703"
##                        "-0.49"    "0"    "0.49"     "0.643"
##                        "-0.49"    "4"    "4.92"     "1.879"
##                        "-0.49"    "0"    "0.49"     "0.643"
##                        "-0.495"   "1"    "1.56"     "1.131"
##                        "-0.5"     "0"    "0.5"      "0.659"
##                        "-0.5"     "0"    "0.5"      "0.689"
##                        "-0.5"     "0"    "0.5"      "0.704"
##                        "-0.5"     "0"    "0.5"      "0.798"
##                        "-0.5"     "0"    "0.5"      "0.704"
##                        "-0.5"     "0"    "0.5"      "0.745"
##                        "-0.5"     "0"    "0.5"      "0.704"
##                        "-0.5"     "0"    "0.5"      "0.644"
##                        "-0.5"     "0"    "0.5"      "0.644"
##                        "-0.5"     "0"    "0.5"      "0.689"
##                        "-0.503"   "87"   "91.68"    "9.299"
##                        "-0.503"   "6"    "7.44"     "2.865"
##                        "-0.505"   "2"    "2.89"     "1.763"
##                        "-0.505"   "2"    "2.89"     "1.763"
##                        "-0.508"   "78"   "82.67"    "9.193"
##                        "-0.51"    "0"    "0.51"     "0.628"
##                        "-0.51"    "0"    "0.51"     "0.703"
##                        "-0.51"    "0"    "0.51"     "0.745"
##                        "-0.51"    "0"    "0.51"     "0.732"
##                        "-0.51"    "0"    "0.51"     "0.674"
##                        "-0.51"    "0"    "0.51"     "0.759"
##                        "-0.51"    "0"    "0.51"     "0.689"
##                        "-0.51"    "0"    "0.51"     "0.759"
##                        "-0.51"    "0"    "0.51"     "0.659"
##                        "-0.51"    "0"    "0.51"     "0.659"
##                        "-0.511"   "109"  "113.95"   "9.686"
##                        "-0.515"   "1"    "1.55"     "1.067"
##                        "-0.517"   "6"    "7.24"     "2.4"
##                        "-0.52"    "0"    "0.52"     "0.703"
##                        "-0.52"    "1"    "1.67"     "1.288"
##                        "-0.52"    "0"    "0.52"     "0.659"
##                        "-0.52"    "0"    "0.52"     "0.731"
##                        "-0.52"    "0"    "0.52"     "0.785"
##                        "-0.52"    "0"    "0.52"     "0.674"
##                        "-0.52"    "0"    "0.52"     "0.759"
##                        "-0.52"    "0"    "0.52"     "0.717"
##                        "-0.52"    "0"    "0.52"     "0.689"
##                        "-0.52"    "0"    "0.52"     "0.797"
##                        "-0.52"    "0"    "0.52"     "0.689"
##                        "-0.52"    "0"    "0.52"     "0.797"
##                        "-0.52"    "0"    "0.52"     "0.717"
##                        "-0.523"   "1"    "1.65"     "1.242"
##                        "-0.523"   "3"    "4.12"     "2.143"
##                        "-0.525"   "3"    "4.04"     "1.979"
##                        "-0.527"   "3"    "4.11"     "2.108"
##                        "-0.529"   "1"    "1.71"     "1.343"
##                        "-0.529"   "6"    "7.44"     "2.72"
```

```
##                      "-0.53"    "0"      "0.53"     "0.745"
##                      "-0.53"    "0"      "0.53"     "0.674"
##                      "-0.53"    "0"      "0.53"     "0.703"
##                      "-0.532"   "10"     "11.78"    "3.344"
##                      "-0.533"   "1"      "1.7"      "1.314"
##                      "-0.537"   "1"      "1.76"     "1.415"
##                      "-0.54"    "0"      "0.54"     "0.717"
##                      "-0.54"    "0"      "0.54"     "0.702"
##                      "-0.54"    "0"      "0.54"     "0.809"
##                      "-0.54"    "0"      "0.54"     "0.784"
##                      "-0.54"    "0"      "0.54"     "0.797"
##                      "-0.54"    "0"      "0.54"     "0.717"
##                      "-0.54"    "0"      "0.54"     "0.797"
##                      "-0.54"    "0"      "0.54"     "0.717"
##                      "-0.54"    "0"      "0.54"     "0.784"
##                      "-0.545"   "9"      "10.76"    "3.232"
##                      "-0.548"   "139"    "145.33"   "11.542"
##                      "-0.55"    "0"      "0.55"     "0.744"
##                      "-0.55"    "0"      "0.55"     "0.702"
##                      "-0.55"    "0"      "0.55"     "0.702"
##                      "-0.55"    "0"      "0.55"     "0.857"
##                      "-0.55"    "0"      "0.55"     "0.716"
##                      "-0.55"    "0"      "0.55"     "0.672"
##                      "-0.55"    "0"      "0.55"     "0.783"
##                      "-0.55"    "0"      "0.55"     "0.845"
##                      "-0.554"   "3"      "4.13"     "2.038"
##                      "-0.557"   "5"      "6.4"      "2.515"
##                      "-0.558"   "9"      "11.08"    "3.725"
##                      "-0.56"    "0"      "0.56"     "0.686"
##                      "-0.56"    "0"      "0.56"     "0.77"
##                      "-0.56"    "0"      "0.56"     "0.857"
##                      "-0.56"    "0"      "0.56"     "0.808"
##                      "-0.56"    "0"      "0.56"     "0.686"
##                      "-0.56"    "0"      "0.56"     "0.77"
##                      "-0.56"    "0"      "0.56"     "0.686"
##                      "-0.56"    "0"      "0.56"     "0.77"
##                      "-0.561"   "1"      "1.73"     "1.302"
##                      "-0.561"   "1"      "1.73"     "1.302"
##                      "-0.563"   "34"     "37.64"    "6.471"
##                      "-0.564"   "31"     "34.47"    "6.149"
##                      "-0.566"   "10"     "11.98"    "3.499"
##                      "-0.57"    "0"      "0.57"     "0.782"
##                      "-0.57"    "0"      "0.57"     "0.868"
##                      "-0.572"   "1"      "1.87"     "1.522"
##                      "-0.579"   "6"      "7.61"     "2.781"
##                      "-0.58"    "0"      "0.58"     "0.831"
##                      "-0.58"    "0"      "0.58"     "0.794"
##                      "-0.58"    "0"      "0.58"     "0.806"
##                      "-0.58"    "0"      "0.58"     "0.755"
##                      "-0.58"    "0"      "0.58"     "0.831"
##                      "-0.58"    "0"      "0.58"     "0.768"
##                      "-0.58"    "0"      "0.58"     "0.684"
##                      "-0.58"    "0"      "0.58"     "0.684"
##                      "-0.588"   "4"      "5.37"     "2.33"
```

```
##                   "-0.59"    "0"    "0.59"    "0.753"
##                   "-0.59"    "0"    "0.59"    "0.866"
##                   "-0.59"    "0"    "0.59"    "0.793"
##                   "-0.59"    "0"    "0.59"    "0.793"
##                   "-0.59"    "0"    "0.59"    "0.793"
##                   "-0.59"    "0"    "0.59"    "0.726"
##                   "-0.59"    "0"    "0.59"    "0.78"
##                   "-0.59"    "0"    "0.59"    "0.712"
##                   "-0.59"    "0"    "0.59"    "0.793"
##                   "-0.593"   "5"    "6.31"    "2.21"
##                   "-0.593"   "5"    "6.31"    "2.21"
##                   "-0.599"   "15"   "17.45"   "4.091"
##                   "-0.599"   "1"    "1.77"    "1.286"
##                   "-0.6"     "0"    "0.6"     "0.778"
##                   "-0.6"     "0"    "0.6"     "0.804"
##                   "-0.6"     "0"    "0.6"     "0.778"
##                   "-0.6"     "0"    "0.6"     "0.804"
##                   "-0.6"     "0"    "0.6"     "0.696"
##                   "-0.6"     "0"    "0.6"     "0.739"
##                   "-0.6"     "0"    "0.6"     "0.739"
##                   "-0.6"     "0"    "0.6"     "0.696"
##                   "-0.6"     "0"    "0.6"     "0.696"
##                   "-0.601"   "16"   "18.4"    "3.995"
##                   "-0.601"   "1"    "1.99"    "1.648"
##                   "-0.604"   "120"  "126.92"  "11.463"
##                   "-0.608"   "2"    "3.07"    "1.76"
##                   "-0.61"    "0"    "0.61"    "0.803"
##                   "-0.61"    "0"    "0.61"    "0.764"
##                   "-0.61"    "0"    "0.61"    "0.777"
##                   "-0.611"   "69"   "74.67"   "9.287"
##                   "-0.611"   "3"    "4.2"     "1.964"
##                   "-0.613"   "11"   "12.77"   "2.888"
##                   "-0.615"   "161"  "169.33"  "13.538"
##                   "-0.617"   "1"    "1.82"    "1.329"
##                   "-0.618"   "63"   "68.61"   "9.078"
##                   "-0.62"    "0"    "0.62"    "0.763"
##                   "-0.62"    "0"    "0.62"    "0.763"
##                   "-0.62"    "0"    "0.62"    "0.814"
##                   "-0.62"    "0"    "0.62"    "0.776"
##                   "-0.62"    "0"    "0.62"    "0.736"
##                   "-0.62"    "1"    "1.74"    "1.194"
##                   "-0.62"    "0"    "0.62"    "0.763"
##                   "-0.62"    "0"    "0.62"    "0.736"
##                   "-0.62"    "0"    "0.62"    "0.736"
##                   "-0.62"    "0"    "0.62"    "0.736"
##                   "-0.622"   "5"    "6.56"    "2.508"
##                   "-0.623"   "0"    "0.63"    "1.012"
##                   "-0.624"   "1"    "1.86"    "1.378"
##                   "-0.626"   "1"    "1.93"    "1.486"
##                   "-0.626"   "1"    "1.93"    "1.486"
##                   "-0.626"   "52"   "56.78"   "7.63"
##                   "-0.629"   "10"   "12.08"   "3.308"
##                   "-0.63"    "0"    "0.63"    "0.734"
##                   "-0.63"    "0"    "0.63"    "0.774"
```

```
##                      "-0.63"    "0"      "0.63"    "0.72"
##                      "-0.631"   "1"      "1.78"    "1.236"
##                      "-0.631"   "1"      "1.78"    "1.236"
##                      "-0.635"   "6"      "7.73"    "2.726"
##                      "-0.637"   "22"     "25.29"   "5.163"
##                      "-0.638"   "1"      "1.81"    "1.269"
##                      "-0.64"    "0"      "0.64"    "0.811"
##                      "-0.64"    "0"      "0.64"    "0.704"
##                      "-0.64"    "1"      "1.94"    "1.469"
##                      "-0.64"    "0"      "0.64"    "0.835"
##                      "-0.64"    "0"      "0.64"    "0.871"
##                      "-0.641"   "2"      "3.32"    "2.059"
##                      "-0.642"   "3"      "4.47"    "2.289"
##                      "-0.645"   "1"      "1.92"    "1.426"
##                      "-0.645"   "1"      "1.92"    "1.426"
##                      "-0.646"   "209"    "219.11"  "15.642"
##                      "-0.648"   "12"     "14.15"   "3.319"
##                      "-0.649"   "1"      "1.83"    "1.28"
##                      "-0.65"    "0"      "0.65"    "0.809"
##                      "-0.65"    "0"      "0.65"    "0.821"
##                      "-0.65"    "0"      "0.65"    "0.796"
##                      "-0.65"    "0"      "0.65"    "0.869"
##                      "-0.65"    "0"      "0.65"    "0.821"
##                      "-0.65"    "0"      "0.65"    "0.809"
##                      "-0.65"    "0"      "0.65"    "0.77"
##                      "-0.65"    "0"      "0.65"    "0.77"
##                      "-0.66"    "0"      "0.66"    "0.89"
##                      "-0.66"    "0"      "0.66"    "0.742"
##                      "-0.663"   "2"      "3.26"    "1.9"
##                      "-0.663"   "11"     "13.3"    "3.468"
##                      "-0.667"   "1"      "1.95"    "1.424"
##                      "-0.669"   "98"     "104.36"  "9.51"
##                      "-0.673"   "1"      "1.98"    "1.456"
##                      "-0.677"   "4"      "5.55"    "2.289"
##                      "-0.68"    "0"      "0.68"    "0.803"
##                      "-0.68"    "0"      "0.68"    "0.815"
##                      "-0.68"    "1"      "2.12"    "1.647"
##                      "-0.68"    "0"      "0.68"    "0.803"
##                      "-0.68"    "0"      "0.68"    "0.764"
##                      "-0.68"    "0"      "0.68"    "0.777"
##                      "-0.68"    "0"      "0.68"    "0.803"
##                      "-0.68"    "0"      "0.68"    "0.803"
##                      "-0.68"    "0"      "0.68"    "0.764"
##                      "-0.682"   "13"     "15.67"   "3.916"
##                      "-0.682"   "13"     "15.67"   "3.916"
##                      "-0.688"   "1"      "1.84"    "1.22"
##                      "-0.69"    "0"      "0.69"    "0.837"
##                      "-0.69"    "0"      "0.69"    "0.837"
##                      "-0.69"    "0"      "0.69"    "0.837"
##                      "-0.69"    "0"      "0.69"    "0.94"
##                      "-0.69"    "0"      "0.69"    "0.907"
##                      "-0.69"    "0"      "0.69"    "0.825"
##                      "-0.69"    "0"      "0.69"    "0.734"
##                      "-0.69"    "0"      "0.69"    "0.775"
```

```
##                    "-0.69"   "0"     "0.69"     "0.837"
##                    "-0.69"   "0"     "0.69"     "0.787"
##                    "-0.69"   "0"     "0.69"     "0.787"
##                    "-0.69"   "0"     "0.69"     "0.813"
##                    "-0.69"   "0"     "0.69"     "0.884"
##                    "-0.698"  "5"     "6.84"     "2.635"
##                    "-0.7"    "0"     "0.7"      "0.718"
##                    "-0.7"    "0"     "0.7"      "0.859"
##                    "-0.704"  "12"    "14.88"    "4.093"
##                    "-0.705"  "165"   "173.76"   "12.417"
##                    "-0.706"  "2"     "3.34"     "1.897"
##                    "-0.71"   "0"     "0.71"     "0.82"
##                    "-0.71"   "0"     "0.71"     "0.795"
##                    "-0.71"   "0"     "0.71"     "0.743"
##                    "-0.71"   "0"     "0.71"     "0.891"
##                    "-0.71"   "0"     "0.71"     "0.891"
##                    "-0.71"   "0"     "0.71"     "0.891"
##                    "-0.72"   "0"     "0.72"     "0.792"
##                    "-0.72"   "0"     "0.72"     "0.792"
##                    "-0.72"   "0"     "0.72"     "0.792"
##                    "-0.72"   "0"     "0.72"     "0.792"
##                    "-0.72"   "0"     "0.72"     "0.911"
##                    "-0.72"   "0"     "0.72"     "0.877"
##                    "-0.72"   "0"     "0.72"     "0.866"
##                    "-0.72"   "0"     "0.72"     "0.866"
##                    "-0.72"   "0"     "0.72"     "0.866"
##                    "-0.72"   "0"     "0.72"     "0.866"
##                    "-0.72"   "0"     "0.72"     "0.792"
##                    "-0.72"   "0"     "0.72"     "0.792"
##                    "-0.72"   "0"     "0.72"     "0.766"
##                    "-0.721"  "2"     "3.41"     "1.955"
##                    "-0.722"  "2"     "3.25"     "1.731"
##                    "-0.722"  "2"     "3.3"      "1.801"
##                    "-0.728"  "1"     "2.06"     "1.455"
##                    "-0.728"  "2"     "3.32"     "1.814"
##                    "-0.73"   "0"     "0.73"     "0.874"
##                    "-0.73"   "0"     "0.73"     "0.863"
##                    "-0.73"   "0"     "0.73"     "0.863"
##                    "-0.73"   "0"     "0.73"     "0.93"
##                    "-0.733"  "10"    "12.38"    "3.247"
##                    "-0.736"  "2"     "3.34"     "1.821"
##                    "-0.738"  "1"     "2.09"     "1.478"
##                    "-0.74"   "0"     "0.74"     "0.848"
##                    "-0.74"   "2"     "3.25"     "1.69"
##                    "-0.74"   "0"     "0.74"     "0.848"
##                    "-0.744"  "1"     "2.02"     "1.371"
##                    "-0.744"  "1"     "2.15"     "1.546"
##                    "-0.748"  "1"     "2.02"     "1.363"
##                    "-0.75"   "0"     "0.75"     "0.968"
##                    "-0.75"   "0"     "0.75"     "0.821"
##                    "-0.75"   "0"     "0.75"     "0.796"
##                    "-0.75"   "1"     "2.03"     "1.374"
##                    "-0.75"   "0"     "0.75"     "0.925"
##                    "-0.75"   "0"     "0.75"     "0.936"
```

```
##                     "-0.75"   "0"    "0.75"    "0.821"
##                     "-0.75"   "0"    "0.75"    "0.796"
##                     "-0.75"   "0"    "0.75"    "0.914"
##                     "-0.751"  "4"    "5.68"    "2.238"
##                     "-0.76"   "0"    "0.76"    "0.889"
##                     "-0.76"   "0"    "0.76"    "0.818"
##                     "-0.76"   "0"    "0.76"    "0.83"
##                     "-0.76"   "6"    "8.14"    "2.814"
##                     "-0.76"   "0"    "0.76"    "0.83"
##                     "-0.76"   "0"    "0.76"    "0.866"
##                     "-0.76"   "0"    "0.76"    "0.866"
##                     "-0.76"   "0"    "0.76"    "0.878"
##                     "-0.76"   "0"    "0.76"    "0.878"
##                     "-0.76"   "0"    "0.76"    "0.878"
##                     "-0.761"  "10"   "12.7"    "3.546"
##                     "-0.763"  "28"   "31.86"   "5.061"
##                     "-0.767"  "75"   "82.09"   "9.25"
##                     "-0.768"  "1"    "2.14"    "1.484"
##                     "-0.768"  "1"    "2.23"    "1.601"
##                     "-0.769"  "4"    "5.74"    "2.264"
##                     "-0.77"   "0"    "0.77"    "0.839"
##                     "-0.77"   "0"    "0.77"    "0.815"
##                     "-0.77"   "0"    "0.77"    "0.851"
##                     "-0.77"   "0"    "0.77"    "0.851"
##                     "-0.771"  "1"    "2.03"    "1.337"
##                     "-0.777"  "1"    "2.29"    "1.659"
##                     "-0.779"  "3"    "4.8"     "2.309"
##                     "-0.779"  "3"    "4.56"    "2.002"
##                     "-0.78"   "0"    "0.78"    "0.848"
##                     "-0.78"   "0"    "0.78"    "0.894"
##                     "-0.78"   "0"    "0.78"    "0.836"
##                     "-0.789"  "1"    "2.04"    "1.317"
##                     "-0.789"  "1"    "2.11"    "1.406"
##                     "-0.79"   "0"    "0.79"    "0.902"
##                     "-0.79"   "11"   "14.05"   "3.862"
##                     "-0.79"   "0"    "0.79"    "0.967"
##                     "-0.79"   "0"    "0.79"    "0.795"
##                     "-0.79"   "0"    "0.79"    "0.924"
##                     "-0.79"   "0"    "0.79"    "0.924"
##                     "-0.79"   "11"   "14.05"   "3.862"
##                     "-0.798"  "1"    "2.22"    "1.528"
##                     "-0.798"  "1"    "2.22"    "1.528"
##                     "-0.798"  "1"    "2.22"    "1.528"
##                     "-0.799"  "2"    "3.47"    "1.839"
##                     "-0.8"    "2"    "3.52"    "1.899"
##                     "-0.8"    "0"    "0.8"     "0.791"
##                     "-0.8"    "0"    "0.8"     "0.974"
##                     "-0.8"    "0"    "0.8"     "0.974"
##                     "-0.8"    "0"    "0.8"     "0.974"
##                     "-0.804"  "92"   "99.91"   "9.839"
##                     "-0.805"  "0"    "0.82"    "1.019"
##                     "-0.806"  "13"   "16.16"   "3.923"
##                     "-0.81"   "0"    "0.81"    "0.918"
##                     "-0.81"   "0"    "0.81"    "0.918"
```

```
##                      "-0.81"    "0"     "0.81"    "0.95"
##                      "-0.81"    "0"     "0.81"    "0.918"
##                      "-0.812"   "56"    "62.16"   "7.582"
##                      "-0.812"   "1"     "2.2"     "1.477"
##                      "-0.813"   "1"     "2.45"    "1.783"
##                      "-0.813"   "1"     "2.18"    "1.452"
##                      "-0.815"   "2"     "3.38"    "1.692"
##                      "-0.82"    "0"     "0.82"    "0.978"
##                      "-0.82"    "0"     "0.82"    "0.999"
##                      "-0.82"    "0"     "0.82"    "0.869"
##                      "-0.82"    "0"     "0.82"    "0.989"
##                      "-0.823"   "5"     "7.02"    "2.454"
##                      "-0.823"   "19"    "23.07"   "4.945"
##                      "-0.83"    "0"     "0.83"    "0.922"
##                      "-0.83"    "0"     "0.83"    "0.817"
##                      "-0.83"    "0"     "0.83"    "0.817"
##                      "-0.83"    "0"     "0.83"    "0.922"
##                      "-0.83"    "0"     "0.83"    "0.911"
##                      "-0.839"   "14"    "17.38"   "4.027"
##                      "-0.839"   "0"     "0.86"    "1.025"
##                      "-0.84"    "0"     "0.84"    "0.884"
##                      "-0.84"    "0"     "0.84"    "0.982"
##                      "-0.84"    "0"     "0.84"    "0.849"
##                      "-0.843"   "1"     "2.38"    "1.638"
##                      "-0.843"   "1"     "2.38"    "1.638"
##                      "-0.845"   "1"     "2.06"    "1.254"
##                      "-0.85"    "0"     "0.85"    "0.936"
##                      "-0.85"    "0"     "0.85"    "0.925"
##                      "-0.85"    "0"     "0.85"    "0.892"
##                      "-0.85"    "0"     "0.85"    "0.947"
##                      "-0.85"    "0"     "0.85"    "0.968"
##                      "-0.85"    "0"     "0.85"    "0.845"
##                      "-0.85"    "0"     "0.85"    "0.989"
##                      "-0.85"    "0"     "0.85"    "0.968"
##                      "-0.85"    "1"     "2.14"    "1.341"
##                      "-0.85"    "0"     "0.85"    "0.989"
##                      "-0.85"    "1"     "2.14"    "1.341"
##                      "-0.85"    "1"     "2.14"    "1.341"
##                      "-0.857"   "1"     "2.2"     "1.4"
##                      "-0.86"    "0"     "0.86"    "0.876"
##                      "-0.86"    "0"     "0.86"    "0.921"
##                      "-0.86"    "0"     "0.86"    "0.932"
##                      "-0.86"    "0"     "0.86"    "0.921"
##                      "-0.86"    "0"     "0.86"    "0.921"
##                      "-0.86"    "0"     "0.86"    "0.964"
##                      "-0.862"   "28"    "32.47"   "5.184"
##                      "-0.867"   "16"    "19.58"   "4.13"
##                      "-0.869"   "0"     "0.87"    "1.002"
##                      "-0.869"   "0"     "0.87"    "1.002"
##                      "-0.869"   "0"     "0.87"    "1.002"
##                      "-0.87"    "0"     "0.87"    "0.872"
##                      "-0.87"    "0"     "0.87"    "0.95"
##                      "-0.87"    "0"     "0.87"    "0.837"
##                      "-0.87"    "0"     "0.87"    "0.971"
```

```
##                      "-0.878"  "0"    "0.89"    "1.014"
##                      "-0.88"   "0"    "0.88"    "0.977"
##                      "-0.88"   "0"    "0.88"    "0.998"
##                      "-0.883"  "23"   "27.75"   "5.381"
##                      "-0.886"  "0"    "0.89"    "1.004"
##                      "-0.886"  "0"    "0.89"    "1.004"
##                      "-0.89"   "53"   "59.98"   "7.844"
##                      "-0.89"   "0"    "0.89"    "0.886"
##                      "-0.89"   "0"    "0.89"    "0.92"
##                      "-0.891"  "3"    "4.76"    "1.975"
##                      "-0.893"  "1"    "2.42"    "1.59"
##                      "-0.894"  "14"   "17.98"   "4.452"
##                      "-0.895"  "2"    "3.88"    "2.1"
##                      "-0.895"  "1"    "2.38"    "1.543"
##                      "-0.897"  "1"    "2.26"    "1.404"
##                      "-0.9"    "0"    "0.9"     "0.948"
##                      "-0.9"    "0"    "0.9"     "0.859"
##                      "-0.9"    "0"    "0.9"     "0.905"
##                      "-0.9"    "0"    "0.9"     "0.969"
##                      "-0.903"  "2"    "3.81"    "2.004"
##                      "-0.903"  "0"    "0.96"    "1.063"
##                      "-0.905"  "0"    "0.93"    "1.027"
##                      "-0.91"   "0"    "0.91"    "0.954"
##                      "-0.911"  "2"    "3.82"    "1.997"
##                      "-0.919"  "0"    "0.94"    "1.023"
##                      "-0.92"   "0"    "0.92"    "0.895"
##                      "-0.92"   "0"    "0.92"    "0.939"
##                      "-0.92"   "0"    "0.92"    "0.939"
##                      "-0.92"   "0"    "0.92"    "0.939"
##                      "-0.93"   "0"    "0.93"    "0.924"
##                      "-0.93"   "0"    "0.93"    "0.795"
##                      "-0.93"   "0"    "0.93"    "0.902"
##                      "-0.93"   "1"    "2.56"    "1.678"
##                      "-0.93"   "0"    "0.93"    "0.879"
##                      "-0.933"  "1"    "2.52"    "1.63"
##                      "-0.934"  "0"    "1.06"    "1.135"
##                      "-0.935"  "10"   "13.49"   "3.732"
##                      "-0.943"  "13"   "16.66"   "3.88"
##                      "-0.944"  "2"    "3.65"    "1.749"
##                      "-0.944"  "2"    "3.65"    "1.749"
##                      "-0.946"  "0"    "1.13"    "1.195"
##                      "-0.947"  "0"    "1.07"    "1.13"
##                      "-0.95"   "1"    "2.36"    "1.432"
##                      "-0.95"   "1"    "2.57"    "1.653"
##                      "-0.95"   "0"    "0.95"    "0.925"
##                      "-0.95"   "0"    "0.95"    "0.833"
##                      "-0.954"  "0"    "1.07"    "1.121"
##                      "-0.956"  "3"    "5.15"    "2.249"
##                      "-0.959"  "0"    "1.14"    "1.189"
##                      "-0.96"   "0"    "0.96"    "0.875"
##                      "-0.96"   "0"    "0.96"    "0.974"
##                      "-0.96"   "0"    "0.96"    "0.875"
##                      "-0.96"   "0"    "0.96"    "0.963"
##                      "-0.963"  "0"    "1.01"    "1.049"
```

```
##                    "-0.963"  "1"    "2.65"    "1.714"
##                    "-0.963"  "1"    "2.65"    "1.714"
##                    "-0.964"  "2"    "3.82"    "1.888"
##                    "-0.965"  "2"    "4.1"     "2.177"
##                    "-0.969"  "0"    "1.39"    "1.435"
##                    "-0.97"   "0"    "0.97"    "0.915"
##                    "-0.97"   "0"    "0.97"    "0.958"
##                    "-0.97"   "0"    "0.97"    "0.958"
##                    "-0.97"   "0"    "0.97"    "0.969"
##                    "-0.97"   "0"    "0.97"    "0.958"
##                    "-0.97"   "0"    "0.97"    "0.915"
##                    "-0.975"  "0"    "1.12"    "1.148"
##                    "-0.975"  "0"    "1.05"    "1.077"
##                    "-0.975"  "0"    "1.05"    "1.077"
##                    "-0.975"  "0"    "1.05"    "1.077"
##                    "-0.975"  "0"    "1.05"    "1.077"
##                    "-0.98"   "0"    "0.98"    "0.91"
##                    "-0.98"   "0"    "0.98"    "0.921"
##                    "-0.984"  "3"    "4.93"    "1.96"
##                    "-0.985"  "1"    "2.53"    "1.553"
##                    "-0.985"  "2"    "4.17"    "2.202"
##                    "-0.987"  "1"    "2.44"    "1.459"
##                    "-0.987"  "0"    "1.1"     "1.115"
##                    "-0.987"  "4"    "5.87"    "1.894"
##                    "-0.989"  "0"    "1.13"    "1.143"
##                    "-0.99"   "0"    "0.99"    "0.959"
##                    "-0.99"   "0"    "0.99"    "0.99"
##                    "-0.992"  "13"   "17.39"   "4.426"
##                    "-0.993"  "9"    "12.78"   "3.805"
##                    "-0.993"  "0"    "1.05"    "1.058"
##                    "-0.995"  "1"    "2.5"     "1.508"
##                    "-0.999"  "5"    "7.83"    "2.832"
##                    "-1"      "0"    "1"       "0.953"
##                    "-1"      "6"    "9.15"    "3.151"
##                    "-1"      "0"    "1"       "0.964"
##                    "-1.002"  "0"    "1.05"    "1.048"
##                    "-1.005"  "1"    "2.46"    "1.452"
##                    "-1.007"  "1"    "2.41"    "1.401"
##                    "-1.009"  "0"    "1.33"    "1.319"
##                    "-1.01"   "0"    "1.03"    "1.02"
##                    "-1.01"   "0"    "1.01"    "0.948"
##                    "-1.01"   "0"    "1.01"    "0.859"
##                    "-1.01"   "0"    "1.01"    "0.859"
##                    "-1.013"  "0"    "1.17"    "1.155"
##                    "-1.02"   "19"   "24.77"   "5.655"
##                    "-1.02"   "0"    "1.02"    "0.953"
##                    "-1.02"   "0"    "1.03"    "1.01"
##                    "-1.021"  "0"    "1.1"     "1.078"
##                    "-1.021"  "101"  "110.59"  "9.397"
##                    "-1.023"  "18"   "22.76"   "4.654"
##                    "-1.025"  "0"    "1.04"    "1.014"
##                    "-1.025"  "0"    "1.04"    "1.014"
##                    "-1.028"  "0"    "1.08"    "1.051"
##                    "-1.03"   "0"    "1.03"    "0.989"
```

```
##                      "-1.03"   "0"    "1.03"   "0.989"
##                      "-1.03"   "0"    "1.03"   "0.989"
##                      "-1.035"  "0"    "1.11"   "1.072"
##                      "-1.037"  "0"    "1.08"   "1.041"
##                      "-1.037"  "0"    "1.17"   "1.129"
##                      "-1.037"  "0"    "1.17"   "1.129"
##                      "-1.037"  "0"    "1.08"   "1.041"
##                      "-1.038"  "1"    "2.94"   "1.869"
##                      "-1.039"  "1"    "2.99"   "1.915"
##                      "-1.04"   "0"    "1.04"   "0.984"
##                      "-1.04"   "0"    "1.04"   "0.942"
##                      "-1.041"  "0"    "1.07"   "1.027"
##                      "-1.041"  "0"    "1.25"   "1.201"
##                      "-1.042"  "6"    "8.49"   "2.389"
##                      "-1.043"  "11"   "14.99"  "3.826"
##                      "-1.046"  "0"    "1.34"   "1.281"
##                      "-1.047"  "0"    "1.27"   "1.213"
##                      "-1.05"   "0"    "1.05"   "0.869"
##                      "-1.052"  "1"    "2.9"    "1.806"
##                      "-1.055"  "3"    "5.13"   "2.018"
##                      "-1.059"  "0"    "1.33"   "1.256"
##                      "-1.059"  "4"    "6.86"   "2.701"
##                      "-1.06"   "0"    "1.06"   "0.983"
##                      "-1.062"  "0"    "1.14"   "1.073"
##                      "-1.062"  "0"    "1.17"   "1.101"
##                      "-1.062"  "0"    "1.17"   "1.101"
##                      "-1.063"  "1"    "2.79"   "1.684"
##                      "-1.063"  "3"    "5.68"   "2.522"
##                      "-1.064"  "7"    "10.11"  "2.923"
##                      "-1.065"  "0"    "1.24"   "1.164"
##                      "-1.07"   "10"   "13.92"  "3.664"
##                      "-1.07"   "0"    "1.07"   "0.987"
##                      "-1.07"   "0"    "1.07"   "0.913"
##                      "-1.072"  "1"    "2.7"    "1.586"
##                      "-1.074"  "0"    "1.31"   "1.22"
##                      "-1.075"  "0"    "1.29"   "1.2"
##                      "-1.076"  "0"    "1.28"   "1.19"
##                      "-1.077"  "0"    "1.27"   "1.179"
##                      "-1.078"  "0"    "1.15"   "1.067"
##                      "-1.081"  "3"    "5.28"   "2.109"
##                      "-1.084"  "0"    "1.09"   "1.006"
##                      "-1.087"  "0"    "1.35"   "1.242"
##                      "-1.087"  "0"    "1.51"   "1.389"
##                      "-1.088"  "18"   "22.96"  "4.557"
##                      "-1.089"  "0"    "1.1"    "1.01"
##                      "-1.089"  "0"    "1.1"    "1.01"
##                      "-1.089"  "0"    "1.1"    "1.01"
##                      "-1.089"  "0"    "1.1"    "1.01"
##                      "-1.089"  "0"    "1.31"   "1.203"
##                      "-1.09"   "0"    "1.2"    "1.101"
##                      "-1.09"   "0"    "1.2"    "1.101"
##                      "-1.091"  "1"    "2.85"   "1.696"
##                      "-1.093"  "35"   "42.15"  "6.542"
##                      "-1.094"  "1"    "2.58"   "1.444"
```

```
##                    "-1.095"  "0"    "1.33"    "1.215"
##                    "-1.096"  "0"    "1.13"    "1.031"
##                    "-1.1"    "0"    "1.1"     "0.916"
##                    "-1.1"    "2"    "4.24"    "2.036"
##                    "-1.1"    "2"    "4.24"    "2.036"
##                    "-1.101"  "0"    "1.27"    "1.153"
##                    "-1.106"  "1"    "2.71"    "1.546"
##                    "-1.107"  "1"    "2.66"    "1.499"
##                    "-1.108"  "17"   "22.09"   "4.595"
##                    "-1.109"  "0"    "1.5"     "1.352"
##                    "-1.109"  "0"    "1.2"     "1.082"
##                    "-1.11"   "0"    "1.44"    "1.297"
##                    "-1.115"  "0"    "1.21"    "1.085"
##                    "-1.115"  "0"    "1.38"    "1.237"
##                    "-1.116"  "65"   "75.21"   "9.149"
##                    "-1.116"  "0"    "1.37"    "1.228"
##                    "-1.116"  "0"    "1.36"    "1.219"
##                    "-1.117"  "0"    "1.13"    "1.012"
##                    "-1.117"  "0"    "1.13"    "1.012"
##                    "-1.117"  "7"    "10.41"   "3.052"
##                    "-1.118"  "0"    "1.15"    "1.029"
##                    "-1.118"  "2"    "4.05"    "1.833"
##                    "-1.119"  "0"    "1.23"    "1.1"
##                    "-1.12"   "0"    "1.12"    "0.868"
##                    "-1.122"  "192"  "206.96"  "13.333"
##                    "-1.123"  "0"    "1.42"    "1.265"
##                    "-1.123"  "0"    "1.25"    "1.114"
##                    "-1.126"  "0"    "1.18"    "1.048"
##                    "-1.126"  "0"    "1.18"    "1.048"
##                    "-1.128"  "0"    "1.23"    "1.09"
##                    "-1.128"  "0"    "1.23"    "1.09"
##                    "-1.128"  "0"    "1.23"    "1.09"
##                    "-1.128"  "0"    "1.23"    "1.09"
##                    "-1.128"  "0"    "1.23"    "1.09"
##                    "-1.129"  "0"    "1.15"    "1.019"
##                    "-1.129"  "0"    "1.15"    "1.019"
##                    "-1.13"   "0"    "1.13"    "0.939"
##                    "-1.13"   "21"   "27.05"   "5.353"
##                    "-1.131"  "1"    "2.92"    "1.698"
##                    "-1.132"  "1"    "3.1"     "1.856"
##                    "-1.134"  "0"    "1.28"    "1.129"
##                    "-1.134"  "0"    "1.33"    "1.173"
##                    "-1.135"  "0"    "1.69"    "1.489"
##                    "-1.135"  "0"    "1.21"    "1.066"
##                    "-1.136"  "0"    "1.18"    "1.038"
##                    "-1.137"  "0"    "1.52"    "1.337"
##                    "-1.137"  "0"    "1.52"    "1.337"
##                    "-1.138"  "0"    "1.2"     "1.054"
##                    "-1.14"   "0"    "1.14"    "0.932"
##                    "-1.14"   "0"    "1.14"    "0.876"
##                    "-1.141"  "0"    "1.34"    "1.174"
##                    "-1.144"  "0"    "1.24"    "1.084"
##                    "-1.144"  "0"    "1.32"    "1.154"
##                    "-1.15"   "0"    "1.29"    "1.122"
```

```
##                      "-1.15"   "3"    "5.39"    "2.079"
##                      "-1.151"  "12"   "16.39"   "3.814"
##                      "-1.155"  "0"    "1.31"    "1.134"
##                      "-1.155"  "0"    "1.21"    "1.047"
##                      "-1.16"   "0"    "1.2"     "1.035"
##                      "-1.16"   "0"    "1.42"    "1.224"
##                      "-1.161"  "1"    "3.04"    "1.758"
##                      "-1.162"  "0"    "1.22"    "1.05"
##                      "-1.165"  "2"    "4.27"    "1.948"
##                      "-1.165"  "1"    "2.83"    "1.57"
##                      "-1.166"  "2"    "4.76"    "2.366"
##                      "-1.168"  "0"    "1.23"    "1.053"
##                      "-1.171"  "1"    "2.58"    "1.35"
##                      "-1.175"  "0"    "1.44"    "1.225"
##                      "-1.175"  "0"    "1.61"    "1.37"
##                      "-1.175"  "0"    "1.44"    "1.225"
##                      "-1.177"  "0"    "1.82"    "1.546"
##                      "-1.18"   "0"    "1.18"    "0.892"
##                      "-1.181"  "1"    "3.36"    "1.998"
##                      "-1.182"  "0"    "1.2"     "1.015"
##                      "-1.186"  "0"    "1.3"     "1.096"
##                      "-1.186"  "0"    "1.3"     "1.096"
##                      "-1.186"  "0"    "1.3"     "1.096"
##                      "-1.187"  "2"    "4.5"     "2.106"
##                      "-1.188"  "78"   "88.37"   "8.729"
##                      "-1.189"  "18"   "23.79"   "4.871"
##                      "-1.19"   "0"    "1.37"    "1.152"
##                      "-1.19"   "0"    "1.23"    "1.033"
##                      "-1.192"  "2"    "4.33"    "1.954"
##                      "-1.196"  "1"    "3.07"    "1.731"
##                      "-1.197"  "0"    "1.58"    "1.319"
##                      "-1.2"    "0"    "1.32"    "1.1"
##                      "-1.2"    "0"    "1.53"    "1.275"
##                      "-1.2"    "0"    "1.32"    "1.1"
##                      "-1.201"  "0"    "1.42"    "1.182"
##                      "-1.202"  "2"    "4.57"    "2.138"
##                      "-1.207"  "0"    "1.46"    "1.21"
##                      "-1.208"  "2"    "4.74"    "2.268"
##                      "-1.21"   "0"    "1.42"    "1.174"
##                      "-1.21"   "0"    "1.86"    "1.538"
##                      "-1.21"   "0"    "1.21"    "0.957"
##                      "-1.211"  "6"    "9.28"    "2.708"
##                      "-1.212"  "0"    "1.35"    "1.114"
##                      "-1.215"  "0"    "1.48"    "1.218"
##                      "-1.217"  "23"   "28.79"   "4.757"
##                      "-1.22"   "0"    "1.22"    "0.938"
##                      "-1.22"   "0"    "1.64"    "1.345"
##                      "-1.221"  "0"    "1.6"     "1.31"
##                      "-1.221"  "0"    "1.6"     "1.31"
##                      "-1.223"  "0"    "1.53"    "1.251"
##                      "-1.224"  "0"    "1.46"    "1.193"
##                      "-1.224"  "0"    "1.46"    "1.193"
##                      "-1.224"  "0"    "1.46"    "1.193"
##                      "-1.226"  "1"    "3.63"    "2.145"
```

```
##                    "-1.226"  "0"     "1.58"     "1.288"
##                    "-1.228"  "0"     "1.97"     "1.605"
##                    "-1.228"  "0"     "1.6"      "1.303"
##                    "-1.229"  "0"     "1.75"     "1.424"
##                    "-1.23"   "0"     "1.23"     "0.941"
##                    "-1.23"   "0"     "1.23"     "0.993"
##                    "-1.23"   "0"     "1.23"     "0.941"
##                    "-1.23"   "0"     "1.23"     "0.908"
##                    "-1.23"   "0"     "1.36"     "1.106"
##                    "-1.231"  "0"     "1.54"     "1.251"
##                    "-1.232"  "0"     "1.47"     "1.193"
##                    "-1.232"  "0"     "1.55"     "1.258"
##                    "-1.233"  "18"    "24.53"    "5.296"
##                    "-1.233"  "0"     "1.46"     "1.184"
##                    "-1.235"  "0"     "1.72"     "1.393"
##                    "-1.236"  "5"     "8.34"     "2.701"
##                    "-1.236"  "3"     "5.79"     "2.258"
##                    "-1.239"  "0"     "1.3"      "1.049"
##                    "-1.239"  "0"     "1.5"      "1.21"
##                    "-1.239"  "0"     "1.25"     "1.009"
##                    "-1.24"   "0"     "1.48"     "1.193"
##                    "-1.241"  "0"     "1.4"      "1.128"
##                    "-1.241"  "0"     "1.4"      "1.128"
##                    "-1.241"  "3"     "6.43"     "2.764"
##                    "-1.242"  "0"     "1.69"     "1.361"
##                    "-1.242"  "0"     "1.32"     "1.062"
##                    "-1.243"  "0"     "1.29"     "1.038"
##                    "-1.243"  "2"     "4.52"     "2.027"
##                    "-1.244"  "8"     "12.11"    "3.303"
##                    "-1.244"  "0"     "1.44"     "1.157"
##                    "-1.244"  "0"     "1.44"     "1.157"
##                    "-1.245"  "0"     "1.67"     "1.341"
##                    "-1.246"  "2"     "4.63"     "2.111"
##                    "-1.247"  "1"     "2.82"     "1.459"
##                    "-1.248"  "0"     "1.54"     "1.234"
##                    "-1.25"   "0"     "1.25"     "0.989"
##                    "-1.25"   "1"     "2.76"     "1.408"
##                    "-1.25"   "0"     "1.3"      "1.04"
##                    "-1.251"  "0"     "1.36"     "1.087"
##                    "-1.251"  "0"     "1.66"     "1.327"
##                    "-1.251"  "0"     "1.81"     "1.447"
##                    "-1.252"  "133"   "148.07"   "12.04"
##                    "-1.256"  "0"     "1.53"     "1.218"
##                    "-1.256"  "0"     "2.35"     "1.872"
##                    "-1.256"  "0"     "1.53"     "1.218"
##                    "-1.258"  "0"     "1.49"     "1.185"
##                    "-1.258"  "1"     "3.06"     "1.638"
##                    "-1.262"  "5"     "8.91"     "3.098"
##                    "-1.263"  "0"     "1.69"     "1.339"
##                    "-1.266"  "0"     "1.38"     "1.09"
##                    "-1.266"  "1"     "2.95"     "1.54"
##                    "-1.266"  "0"     "1.8"      "1.421"
##                    "-1.269"  "0"     "1.47"     "1.159"
##                    "-1.27"   "14"    "18.84"    "3.81"
```

```
##                    "-1.271"  "2"   "4.6"    "2.045"
##                    "-1.274"  "15"  "20.13"  "4.027"
##                    "-1.275"  "0"   "1.3"    "1.02"
##                    "-1.275"  "43"  "50.5"   "5.882"
##                    "-1.276"  "0"   "2.42"   "1.897"
##                    "-1.276"  "0"   "1.76"   "1.379"
##                    "-1.277"  "0"   "1.38"   "1.08"
##                    "-1.28"   "39"  "48.24"  "7.218"
##                    "-1.28"   "2"   "5.06"   "2.39"
##                    "-1.281"  "0"   "2.07"   "1.616"
##                    "-1.282"  "0"   "1.31"   "1.022"
##                    "-1.283"  "0"   "1.76"   "1.372"
##                    "-1.283"  "0"   "1.68"   "1.309"
##                    "-1.285"  "0"   "1.77"   "1.377"
##                    "-1.286"  "25"  "31.84"  "5.318"
##                    "-1.288"  "1"   "3.85"   "2.213"
##                    "-1.288"  "0"   "1.71"   "1.328"
##                    "-1.291"  "1"   "3.14"   "1.658"
##                    "-1.292"  "0"   "1.77"   "1.37"
##                    "-1.294"  "0"   "2.01"   "1.554"
##                    "-1.295"  "0"   "1.65"   "1.274"
##                    "-1.297"  "3"   "6.58"   "2.76"
##                    "-1.297"  "0"   "1.94"   "1.496"
##                    "-1.299"  "0"   "1.42"   "1.093"
##                    "-1.3"    "0"   "1.46"   "1.123"
##                    "-1.3"    "0"   "1.3"    "0.99"
##                    "-1.3"    "0"   "1.56"   "1.2"
##                    "-1.3"    "0"   "1.46"   "1.123"
##                    "-1.3"    "0"   "1.46"   "1.123"
##                    "-1.3"    "0"   "1.46"   "1.123"
##                    "-1.3"    "0"   "1.46"   "1.123"
##                    "-1.301"  "0"   "1.53"   "1.176"
##                    "-1.301"  "0"   "1.9"    "1.46"
##                    "-1.304"  "0"   "1.5"    "1.15"
##                    "-1.304"  "0"   "1.44"   "1.104"
##                    "-1.307"  "0"   "1.31"   "1.002"
##                    "-1.308"  "45"  "54.34"  "7.138"
##                    "-1.308"  "0"   "1.69"   "1.293"
##                    "-1.308"  "0"   "1.74"   "1.33"
##                    "-1.309"  "0"   "1.56"   "1.192"
##                    "-1.309"  "0"   "1.6"    "1.223"
##                    "-1.31"   "0"   "1.31"   "0.982"
##                    "-1.311"  "0"   "1.89"   "1.442"
##                    "-1.314"  "46"  "54.55"  "6.505"
##                    "-1.316"  "0"   "1.84"   "1.398"
##                    "-1.318"  "0"   "1.79"   "1.358"
##                    "-1.318"  "0"   "1.71"   "1.297"
##                    "-1.319"  "0"   "2.06"   "1.562"
##                    "-1.322"  "0"   "2.01"   "1.521"
##                    "-1.322"  "0"   "1.52"   "1.15"
##                    "-1.323"  "0"   "1.78"   "1.345"
##                    "-1.325"  "2"   "5.09"   "2.332"
##                    "-1.325"  "0"   "2.09"   "1.577"
##                    "-1.325"  "0"   "2.02"   "1.524"
```

```
##                       "-1.325"  "0"     "1.35"    "1.019"
##                       "-1.328"  "0"     "1.98"    "1.491"
##                       "-1.328"  "0"     "1.83"    "1.378"
##                       "-1.329"  "22"    "29.41"   "5.576"
##                       "-1.331"  "0"     "1.78"    "1.338"
##                       "-1.333"  "0"     "1.94"    "1.455"
##                       "-1.333"  "0"     "1.92"    "1.44"
##                       "-1.338"  "48"    "59.05"   "8.261"
##                       "-1.34"   "0"     "1.92"    "1.433"
##                       "-1.341"  "0"     "1.47"    "1.096"
##                       "-1.342"  "11"    "16.48"   "4.084"
##                       "-1.344"  "0"     "1.84"    "1.369"
##                       "-1.345"  "1"     "3.11"    "1.569"
##                       "-1.346"  "0"     "2.24"    "1.664"
##                       "-1.347"  "0"     "1.45"    "1.077"
##                       "-1.347"  "0"     "2.06"    "1.53"
##                       "-1.351"  "44"    "52.6"    "6.368"
##                       "-1.351"  "1"     "5.37"    "3.234"
##                       "-1.353"  "2"     "5.12"    "2.306"
##                       "-1.354"  "0"     "1.9"     "1.403"
##                       "-1.355"  "2"     "4.26"    "1.667"
##                       "-1.356"  "0"     "1.79"    "1.32"
##                       "-1.356"  "0"     "1.79"    "1.32"
##                       "-1.363"  "0"     "1.74"    "1.276"
##                       "-1.364"  "0"     "1.62"    "1.187"
##                       "-1.364"  "1"     "3.78"    "2.038"
##                       "-1.364"  "0"     "1.62"    "1.187"
##                       "-1.365"  "0"     "2.06"    "1.51"
##                       "-1.365"  "0"     "2.06"    "1.51"
##                       "-1.365"  "0"     "1.61"    "1.18"
##                       "-1.365"  "0"     "2.06"    "1.51"
##                       "-1.368"  "1"     "3.58"    "1.887"
##                       "-1.375"  "4"     "8.78"    "3.477"
##                       "-1.375"  "0"     "1.9"     "1.382"
##                       "-1.377"  "0"     "1.88"    "1.365"
##                       "-1.378"  "0"     "1.57"    "1.139"
##                       "-1.38"   "0"     "1.38"    "0.993"
##                       "-1.381"  "0"     "1.74"    "1.26"
##                       "-1.383"  "5"     "8.78"    "2.732"
##                       "-1.386"  "1"     "3.97"    "2.144"
##                       "-1.389"  "4"     "7.34"    "2.405"
##                       "-1.391"  "0"     "2.28"    "1.64"
##                       "-1.391"  "0"     "2.28"    "1.64"
##                       "-1.396"  "5"     "8.6"     "2.578"
##                       "-1.397"  "0"     "2.25"    "1.61"
##                       "-1.401"  "0"     "2.29"    "1.635"
##                       "-1.401"  "1"     "3.12"    "1.513"
##                       "-1.407"  "0"     "1.73"    "1.23"
##                       "-1.407"  "0"     "1.73"    "1.23"
##                       "-1.407"  "225"   "249.01"  "17.065"
##                       "-1.407"  "0"     "1.73"    "1.23"
##                       "-1.41"   "40"    "48.9"    "6.313"
##                       "-1.412"  "0"     "2.05"    "1.452"
##                       "-1.414"  "0"     "2.09"    "1.478"
```

```
##                     "-1.416"  "1"   "3.9"    "2.047"
##                     "-1.417"  "1"   "3.81"   "1.983"
##                     "-1.418"  "0"   "2.68"   "1.89"
##                     "-1.424"  "0"   "1.94"   "1.362"
##                     "-1.424"  "0"   "1.94"   "1.362"
##                     "-1.424"  "8"   "13.13"  "3.603"
##                     "-1.425"  "1"   "3.03"   "1.425"
##                     "-1.428"  "0"   "1.75"   "1.226"
##                     "-1.428"  "0"   "1.75"   "1.226"
##                     "-1.43"   "2"   "4.99"   "2.091"
##                     "-1.431"  "0"   "2.2"    "1.537"
##                     "-1.435"  "3"   "6.53"   "2.46"
##                     "-1.436"  "0"   "2"      "1.393"
##                     "-1.441"  "0"   "1.6"    "1.11"
##                     "-1.443"  "0"   "2.11"   "1.463"
##                     "-1.443"  "0"   "2.11"   "1.463"
##                     "-1.445"  "0"   "1.7"    "1.176"
##                     "-1.448"  "0"   "2.5"    "1.726"
##                     "-1.448"  "0"   "2.5"    "1.726"
##                     "-1.45"   "0"   "1.56"   "1.076"
##                     "-1.45"   "1"   "3.45"   "1.69"
##                     "-1.451"  "7"   "12.17"  "3.562"
##                     "-1.451"  "0"   "2.02"   "1.392"
##                     "-1.451"  "2"   "4.96"   "2.04"
##                     "-1.452"  "1"   "4.18"   "2.19"
##                     "-1.452"  "10"  "16.22"  "4.284"
##                     "-1.452"  "14"  "19.32"  "3.665"
##                     "-1.453"  "0"   "2.22"   "1.528"
##                     "-1.454"  "1"   "3.65"   "1.822"
##                     "-1.454"  "0"   "2.05"   "1.41"
##                     "-1.454"  "0"   "2.43"   "1.671"
##                     "-1.458"  "4"   "7.78"   "2.592"
##                     "-1.46"   "0"   "2.44"   "1.672"
##                     "-1.462"  "0"   "1.8"    "1.231"
##                     "-1.462"  "1"   "3.54"   "1.737"
##                     "-1.462"  "61"  "73.92"  "8.837"
##                     "-1.463"  "0"   "2.24"   "1.532"
##                     "-1.466"  "0"   "2.22"   "1.515"
##                     "-1.468"  "1"   "3.55"   "1.737"
##                     "-1.472"  "0"   "1.9"    "1.291"
##                     "-1.472"  "0"   "2.74"   "1.862"
##                     "-1.472"  "0"   "1.9"    "1.291"
##                     "-1.472"  "0"   "1.9"    "1.291"
##                     "-1.472"  "0"   "1.9"    "1.291"
##                     "-1.474"  "0"   "1.87"   "1.269"
##                     "-1.476"  "0"   "2.36"   "1.599"
##                     "-1.476"  "0"   "2.17"   "1.471"
##                     "-1.479"  "3"   "6.39"   "2.291"
##                     "-1.481"  "0"   "2.04"   "1.377"
##                     "-1.483"  "1"   "3.81"   "1.895"
##                     "-1.485"  "0"   "2.09"   "1.408"
##                     "-1.486"  "0"   "1.92"   "1.292"
##                     "-1.487"  "61"  "71.04"  "6.754"
##                     "-1.49"   "1"   "4.38"   "2.269"
```

```
##                     "-1.492"  "0"   "2.31"   "1.549"
##                     "-1.497"  "0"   "1.99"   "1.33"
##                     "-1.497"  "0"   "1.93"   "1.289"
##                     "-1.497"  "0"   "1.93"   "1.289"
##                     "-1.497"  "0"   "1.99"   "1.33"
##                     "-1.498"  "0"   "2.45"   "1.635"
##                     "-1.499"  "0"   "2.19"   "1.461"
##                     "-1.5"    "1"   "4.12"   "2.081"
##                     "-1.502"  "0"   "1.91"   "1.272"
##                     "-1.502"  "0"   "2.34"   "1.558"
##                     "-1.502"  "5"   "9.65"   "3.096"
##                     "-1.504"  "4"   "8"      "2.659"
##                     "-1.505"  "0"   "2.12"   "1.409"
##                     "-1.511"  "19"  "27.55"  "5.658"
##                     "-1.511"  "0"   "2.23"   "1.476"
##                     "-1.513"  "2"   "5.87"   "2.557"
##                     "-1.513"  "0"   "1.92"   "1.269"
##                     "-1.518"  "2"   "5.11"   "2.049"
##                     "-1.518"  "0"   "2.75"   "1.811"
##                     "-1.518"  "0"   "2.37"   "1.561"
##                     "-1.521"  "0"   "2.01"   "1.322"
##                     "-1.521"  "54"  "65"     "7.232"
##                     "-1.521"  "6"   "11.03"  "3.307"
##                     "-1.523"  "1"   "3.67"   "1.753"
##                     "-1.523"  "0"   "1.99"   "1.307"
##                     "-1.524"  "0"   "1.96"   "1.286"
##                     "-1.527"  "29"  "37.98"  "5.883"
##                     "-1.53"   "0"   "2.86"   "1.87"
##                     "-1.532"  "7"   "12.03"  "3.283"
##                     "-1.532"  "2"   "5.61"   "2.357"
##                     "-1.533"  "0"   "1.96"   "1.279"
##                     "-1.533"  "1"   "3.63"   "1.715"
##                     "-1.535"  "0"   "2.41"   "1.571"
##                     "-1.536"  "18"  "25.48"  "4.871"
##                     "-1.537"  "0"   "2.24"   "1.457"
##                     "-1.54"   "0"   "2.26"   "1.468"
##                     "-1.541"  "0"   "2.29"   "1.486"
##                     "-1.543"  "16"  "22.11"  "3.959"
##                     "-1.545"  "0"   "2.1"    "1.36"
##                     "-1.546"  "0"   "2.44"   "1.578"
##                     "-1.548"  "9"   "14.71"  "3.688"
##                     "-1.55"   "0"   "2.28"   "1.471"
##                     "-1.554"  "4"   "8.61"   "2.967"
##                     "-1.554"  "2"   "5.37"   "2.168"
##                     "-1.556"  "0"   "2.38"   "1.529"
##                     "-1.556"  "2"   "5.81"   "2.448"
##                     "-1.559"  "21"  "28.2"   "4.619"
##                     "-1.559"  "0"   "2.54"   "1.629"
##                     "-1.563"  "0"   "2.6"    "1.664"
##                     "-1.564"  "0"   "2.73"   "1.746"
##                     "-1.568"  "1"   "4.41"   "2.175"
##                     "-1.573"  "0"   "2.42"   "1.539"
##                     "-1.573"  "0"   "2.69"   "1.71"
##                     "-1.574"  "0"   "2.17"   "1.378"
```

```
##                     "-1.577"  "0"      "2.07"     "1.312"
##                     "-1.578"  "0"      "2.16"     "1.369"
##                     "-1.578"  "0"      "2.44"     "1.546"
##                     "-1.582"  "0"      "2.27"     "1.434"
##                     "-1.583"  "0"      "2.3"      "1.453"
##                     "-1.587"  "0"      "2.16"     "1.361"
##                     "-1.588"  "2"      "5.59"     "2.261"
##                     "-1.588"  "0"      "2.4"      "1.511"
##                     "-1.59"   "2"      "5.72"     "2.34"
##                     "-1.59"   "2"      "5.72"     "2.34"
##                     "-1.593"  "327"    "354.43"   "17.221"
##                     "-1.594"  "1"      "4.61"     "2.265"
##                     "-1.596"  "0"      "3.12"     "1.955"
##                     "-1.598"  "1122"   "1178.24"  "35.196"
##                     "-1.601"  "1"      "4.18"     "1.987"
##                     "-1.605"  "0"      "2.45"     "1.527"
##                     "-1.605"  "2"      "6.07"     "2.536"
##                     "-1.61"   "12"     "19.02"    "4.36"
##                     "-1.611"  "0"      "2.39"     "1.483"
##                     "-1.613"  "3"      "7.65"     "2.883"
##                     "-1.618"  "0"      "2.62"     "1.619"
##                     "-1.619"  "60"     "73.15"    "8.121"
##                     "-1.626"  "0"      "2.88"     "1.771"
##                     "-1.628"  "0"      "2.84"     "1.745"
##                     "-1.628"  "170"    "192.39"   "13.752"
##                     "-1.629"  "31"     "41.33"    "6.342"
##                     "-1.631"  "0"      "3.83"     "2.349"
##                     "-1.632"  "22"     "31.7"     "5.943"
##                     "-1.633"  "21"     "30.16"    "5.61"
##                     "-1.635"  "60"     "72.28"    "7.512"
##                     "-1.638"  "0"      "2.13"     "1.3"
##                     "-1.638"  "0"      "2.25"     "1.373"
##                     "-1.638"  "0"      "2.25"     "1.373"
##                     "-1.64"   "6"      "10.75"    "2.897"
##                     "-1.645"  "3"      "7.95"     "3.01"
##                     "-1.65"   "0"      "2.18"     "1.321"
##                     "-1.653"  "0"      "2.66"     "1.609"
##                     "-1.654"  "0"      "3.22"     "1.947"
##                     "-1.655"  "0"      "2.19"     "1.323"
##                     "-1.657"  "101"    "118.78"   "10.732"
##                     "-1.659"  "1"      "4.08"     "1.857"
##                     "-1.661"  "0"      "2.47"     "1.487"
##                     "-1.665"  "0"      "3.32"     "1.994"
##                     "-1.665"  "1"      "4.07"     "1.844"
##                     "-1.667"  "0"      "3.09"     "1.854"
##                     "-1.669"  "24"     "32.11"    "4.859"
##                     "-1.67"   "0"      "2.58"     "1.545"
##                     "-1.67"   "0"      "2"        "1.198"
##                     "-1.674"  "0"      "2.25"     "1.344"
##                     "-1.674"  "0"      "2.23"     "1.332"
##                     "-1.674"  "0"      "2.78"     "1.661"
##                     "-1.675"  "2"      "5.79"     "2.262"
##                     "-1.675"  "2"      "5.79"     "2.262"
##                     "-1.675"  "2"      "5.79"     "2.262"
```

```
##                    "-1.676"  "0"   "3.04"    "1.814"
##                    "-1.679"  "0"   "2.96"    "1.763"
##                    "-1.681"  "0"   "2.16"    "1.285"
##                    "-1.686"  "1"   "4.72"    "2.207"
##                    "-1.686"  "1"   "4.72"    "2.207"
##                    "-1.688"  "0"   "2.24"    "1.327"
##                    "-1.693"  "0"   "2.35"    "1.388"
##                    "-1.693"  "86"  "102.78"  "9.909"
##                    "-1.693"  "0"   "2.35"    "1.388"
##                    "-1.699"  "3"   "6.67"    "2.161"
##                    "-1.699"  "0"   "2.63"    "1.548"
##                    "-1.704"  "0"   "3.18"    "1.866"
##                    "-1.704"  "3"   "7.09"    "2.4"
##                    "-1.706"  "26"  "34.24"   "4.829"
##                    "-1.708"  "2"   "6.52"    "2.646"
##                    "-1.709"  "2"   "5.23"    "1.89"
##                    "-1.713"  "0"   "2.63"    "1.535"
##                    "-1.715"  "0"   "3.01"    "1.755"
##                    "-1.715"  "0"   "2.8"     "1.633"
##                    "-1.721"  "0"   "2.9"     "1.685"
##                    "-1.722"  "7"   "13.06"   "3.519"
##                    "-1.728"  "0"   "2.63"    "1.522"
##                    "-1.73"   "0"   "2.77"    "1.601"
##                    "-1.733"  "0"   "2.97"    "1.714"
##                    "-1.736"  "0"   "3.64"    "2.096"
##                    "-1.737"  "65"  "80.51"   "8.928"
##                    "-1.738"  "1"   "4.68"    "2.117"
##                    "-1.738"  "0"   "3.05"    "1.755"
##                    "-1.743"  "0"   "2.81"    "1.612"
##                    "-1.743"  "0"   "2.66"    "1.526"
##                    "-1.745"  "0"   "2.97"    "1.702"
##                    "-1.75"   "0"   "2.3"     "1.314"
##                    "-1.753"  "1"   "4.29"    "1.876"
##                    "-1.761"  "11"  "18.24"   "4.112"
##                    "-1.762"  "0"   "3.12"    "1.771"
##                    "-1.763"  "0"   "3.17"    "1.798"
##                    "-1.764"  "7"   "12.96"   "3.378"
##                    "-1.765"  "0"   "3.06"    "1.734"
##                    "-1.765"  "0"   "3.06"    "1.734"
##                    "-1.765"  "0"   "2.82"    "1.598"
##                    "-1.767"  "0"   "2.62"    "1.482"
##                    "-1.767"  "2"   "6.81"    "2.722"
##                    "-1.767"  "0"   "3.99"    "2.259"
##                    "-1.772"  "9"   "14.9"    "3.329"
##                    "-1.776"  "0"   "3.19"    "1.796"
##                    "-1.782"  "0"   "3.6"     "2.02"
##                    "-1.782"  "2"   "5.98"    "2.234"
##                    "-1.784"  "9"   "15.71"   "3.761"
##                    "-1.784"  "0"   "2.62"    "1.469"
##                    "-1.785"  "1"   "4.72"    "2.084"
##                    "-1.785"  "0"   "3.51"    "1.967"
##                    "-1.789"  "0"   "3.87"    "2.163"
##                    "-1.79"   "0"   "3.59"    "2.006"
##                    "-1.791"  "5"   "10.16"   "2.881"
```

```
##                    "-1.792" "38"   "50.84"  "7.164"
##                    "-1.795" "6"    "12.58"  "3.666"
##                    "-1.795" "11"   "18.72"  "4.302"
##                    "-1.795" "11"   "18.72"  "4.302"
##                    "-1.801" "0"    "3.94"   "2.187"
##                    "-1.801" "0"    "3.18"   "1.766"
##                    "-1.801" "7"    "12.36"  "2.976"
##                    "-1.804" "0"    "3.37"   "1.868"
##                    "-1.805" "2"    "6.94"   "2.737"
##                    "-1.805" "0"    "2.85"   "1.579"
##                    "-1.806" "7"    "13.55"  "3.628"
##                    "-1.807" "0"    "3.8"    "2.103"
##                    "-1.809" "0"    "3.64"   "2.013"
##                    "-1.812" "7"    "14.07"  "3.901"
##                    "-1.812" "13"   "21.44"  "4.659"
##                    "-1.813" "0"    "3.74"   "2.063"
##                    "-1.814" "75"   "92.25"  "9.51"
##                    "-1.818" "0"    "2.77"   "1.523"
##                    "-1.823" "0"    "3.45"   "1.893"
##                    "-1.825" "12"   "19.76"  "4.252"
##                    "-1.825" "0"    "2.39"   "1.31"
##                    "-1.829" "2"    "6.98"   "2.723"
##                    "-1.829" "1"    "5.42"   "2.417"
##                    "-1.83"  "2"    "7.09"   "2.782"
##                    "-1.832" "0"    "2.95"   "1.61"
##                    "-1.832" "0"    "3.64"   "1.987"
##                    "-1.833" "33"   "44.19"  "6.105"
##                    "-1.834" "0"    "3.22"   "1.756"
##                    "-1.835" "0"    "3.77"   "2.054"
##                    "-1.838" "110"  "132.42" "12.2"
##                    "-1.839" "0"    "3.34"   "1.816"
##                    "-1.84"  "1"    "4.77"   "2.049"
##                    "-1.843" "0"    "3.88"   "2.105"
##                    "-1.843" "0"    "3.88"   "2.105"
##                    "-1.847" "0"    "2.92"   "1.581"
##                    "-1.847" "0"    "3.08"   "1.668"
##                    "-1.847" "22"   "33.37"  "6.156"
##                    "-1.848" "6"    "14.16"  "4.415"
##                    "-1.852" "0"    "2.78"   "1.501"
##                    "-1.854" "4"    "9.33"   "2.875"
##                    "-1.855" "0"    "3.75"   "2.022"
##                    "-1.86"  "0"    "3.08"   "1.656"
##                    "-1.86"  "0"    "3.08"   "1.656"
##                    "-1.862" "0"    "2.3"    "1.235"
##                    "-1.862" "0"    "2.3"    "1.235"
##                    "-1.863" "1"    "4.85"   "2.066"
##                    "-1.863" "2"    "6.63"   "2.485"
##                    "-1.865" "0"    "3.64"   "1.952"
##                    "-1.868" "1"    "4.34"   "1.788"
##                    "-1.87"  "0"    "3.64"   "1.946"
##                    "-1.872" "0"    "3.74"   "1.998"
##                    "-1.872" "0"    "3.66"   "1.955"
##                    "-1.875" "0"    "2.85"   "1.52"
##                    "-1.876" "0"    "3.37"   "1.796"
```

```
##                      "-1.876"  "7"    "13.89"   "3.673"
##                      "-1.877"  "0"    "2.55"    "1.359"
##                      "-1.878"  "12"   "20.93"   "4.755"
##                      "-1.88"   "21"   "31.56"   "5.616"
##                      "-1.881"  "134"  "159.59"  "13.601"
##                      "-1.883"  "0"    "3.61"    "1.917"
##                      "-1.885"  "66"   "82.75"   "8.888"
##                      "-1.89"   "0"    "3.01"    "1.592"
##                      "-1.894"  "3"    "8.25"    "2.772"
##                      "-1.902"  "0"    "3.91"    "2.055"
##                      "-1.908"  "2"    "7.22"    "2.736"
##                      "-1.914"  "6"    "12.63"   "3.463"
##                      "-1.914"  "0"    "3.52"    "1.839"
##                      "-1.915"  "16"   "25.74"   "5.086"
##                      "-1.918"  "28"   "40.18"   "6.351"
##                      "-1.919"  "1"    "5.33"    "2.257"
##                      "-1.921"  "0"    "4.44"    "2.311"
##                      "-1.922"  "0"    "2.89"    "1.503"
##                      "-1.925"  "1"    "5.99"    "2.592"
##                      "-1.93"   "2"    "7.14"    "2.663"
##                      "-1.933"  "0"    "2.58"    "1.335"
##                      "-1.933"  "0"    "2.58"    "1.335"
##                      "-1.933"  "0"    "2.58"    "1.335"
##                      "-1.933"  "0"    "2.58"    "1.335"
##                      "-1.939"  "8"    "15.05"   "3.636"
##                      "-1.943"  "0"    "2.84"    "1.461"
##                      "-1.947"  "110"  "129.7"   "10.118"
##                      "-1.947"  "0"    "4"       "2.055"
##                      "-1.95"   "12"   "20.08"   "4.143"
##                      "-1.955"  "0"    "3.8"     "1.944"
##                      "-1.962"  "1"    "4.65"    "1.861"
##                      "-1.962"  "0"    "3.01"    "1.534"
##                      "-1.963"  "0"    "3.97"    "2.022"
##                      "-1.965"  "0"    "3.41"    "1.736"
##                      "-1.966"  "0"    "4.25"    "2.162"
##                      "-1.967"  "0"    "4.19"    "2.131"
##                      "-1.972"  "3"    "9.46"    "3.277"
##                      "-1.975"  "7"    "14.59"   "3.843"
##                      "-1.975"  "21"   "32.21"   "5.677"
##                      "-1.98"   "0"    "4.12"    "2.081"
##                      "-1.981"  "1"    "6.06"    "2.554"
##                      "-1.983"  "0"    "3.9"     "1.967"
##                      "-1.989"  "10"   "18.54"   "4.293"
##                      "-1.99"   "0"    "3.61"    "1.814"
##                      "-1.992"  "291"  "333.12"  "21.148"
##                      "-1.994"  "165"  "193.36"  "14.224"
##                      "-1.995"  "0"    "3.72"    "1.865"
##                      "-1.996"  "0"    "3.48"    "1.744"
##                      "-1.996"  "2"    "7.08"    "2.545"
##                      "-1.997"  "0"    "3.65"    "1.828"
##                      "-2.009"  "0"    "3.65"    "1.817"
##                      "-2.012"  "0"    "3.94"    "1.958"
##                      "-2.013"  "3"    "9.92"    "3.437"
##                      "-2.013"  "1"    "4.78"    "1.878"
```

```
##                      "-2.014"   "7"     "14.61"    "3.779"
##                      "-2.014"   "10"    "17.29"    "3.619"
##                      "-2.017"   "63"    "83.05"    "9.94"
##                      "-2.019"   "0"     "3.03"     "1.501"
##                      "-2.02"    "0"     "4.47"     "2.213"
##                      "-2.02"    "0"     "4.37"     "2.163"
##                      "-2.022"   "0"     "4.96"     "2.453"
##                      "-2.024"   "0"     "3.47"     "1.714"
##                      "-2.024"   "2"     "7.3"      "2.619"
##                      "-2.032"   "0"     "2.86"     "1.407"
##                      "-2.032"   "0"     "2.86"     "1.407"
##                      "-2.034"   "0"     "3.64"     "1.79"
##                      "-2.038"   "3"     "9.12"     "3.003"
##                      "-2.041"   "17"    "28.57"    "5.668"
##                      "-2.045"   "0"     "5.32"     "2.601"
##                      "-2.049"   "1"     "5.7"      "2.294"
##                      "-2.053"   "5"     "12.02"    "3.42"
##                      "-2.061"   "2"     "8.12"     "2.969"
##                      "-2.062"   "1"     "6.43"     "2.633"
##                      "-2.062"   "1"     "5.71"     "2.284"
##                      "-2.062"   "1"     "5.71"     "2.284"
##                      "-2.064"   "1"     "5.4"      "2.132"
##                      "-2.064"   "2"     "7.3"      "2.568"
##                      "-2.071"   "0"     "4.25"     "2.052"
##                      "-2.074"   "3"     "9.56"     "3.163"
##                      "-2.081"   "1"     "5.25"     "2.042"
##                      "-2.083"   "8"     "16.87"    "4.258"
##                      "-2.084"   "0"     "4.08"     "1.958"
##                      "-2.086"   "0"     "4.53"     "2.172"
##                      "-2.088"   "4"     "10.54"    "3.132"
##                      "-2.09"    "0"     "4.45"     "2.129"
##                      "-2.091"   "30"    "41.9"     "5.69"
##                      "-2.092"   "958"   "1020.3"   "29.776"
##                      "-2.092"   "0"     "5.09"     "2.433"
##                      "-2.096"   "2"     "7.02"     "2.395"
##                      "-2.098"   "36"    "50.96"    "7.132"
##                      "-2.099"   "1"     "6.42"     "2.583"
##                      "-2.102"   "1"     "6.73"     "2.726"
##                      "-2.104"   "0"     "4.18"     "1.987"
##                      "-2.105"   "35"    "49.14"    "6.717"
##                      "-2.108"   "0"     "5.62"     "2.666"
##                      "-2.111"   "1"     "6.24"     "2.483"
##                      "-2.113"   "12"    "19.97"    "3.772"
##                      "-2.114"   "0"     "4.31"     "2.038"
##                      "-2.116"   "25"    "37.25"    "5.79"
##                      "-2.117"   "0"     "4.39"     "2.074"
##                      "-2.118"   "0"     "4.32"     "2.039"
##                      "-2.118"   "0"     "4.79"     "2.262"
##                      "-2.121"   "1"     "6.23"     "2.465"
##                      "-2.122"   "0"     "4.76"     "2.243"
##                      "-2.126"   "0"     "3.39"     "1.595"
##                      "-2.132"   "0"     "3.78"     "1.773"
##                      "-2.133"   "4"     "10.16"    "2.888"
##                      "-2.136"   "112"   "139.63"   "12.934"
```

```
##                    "-2.142"  "0"    "4.49"    "2.096"
##                    "-2.142"  "0"    "4.49"    "2.096"
##                    "-2.142"  "0"    "4.49"    "2.096"
##                    "-2.142"  "0"    "4.49"    "2.096"
##                    "-2.144"  "1"    "7.58"    "3.069"
##                    "-2.144"  "1"    "6.64"    "2.631"
##                    "-2.147"  "0"    "5.35"    "2.492"
##                    "-2.148"  "0"    "3.54"    "1.648"
##                    "-2.153"  "0"    "4.83"    "2.243"
##                    "-2.153"  "0"    "4.47"    "2.077"
##                    "-2.153"  "0"    "4.47"    "2.077"
##                    "-2.153"  "0"    "4.47"    "2.077"
##                    "-2.154"  "0"    "4.18"    "1.94"
##                    "-2.154"  "13"   "23.73"   "4.98"
##                    "-2.155"  "0"    "4.43"    "2.056"
##                    "-2.155"  "0"    "4.43"    "2.056"
##                    "-2.155"  "0"    "4.43"    "2.056"
##                    "-2.157"  "26"   "38.57"   "5.826"
##                    "-2.158"  "0"    "3.68"    "1.705"
##                    "-2.158"  "0"    "3.68"    "1.705"
##                    "-2.166"  "0"    "5.04"    "2.326"
##                    "-2.167"  "0"    "4.01"    "1.85"
##                    "-2.169"  "0"    "4.38"    "2.019"
##                    "-2.169"  "0"    "4.19"    "1.932"
##                    "-2.173"  "2"    "8.26"    "2.88"
##                    "-2.173"  "0"    "4.62"    "2.126"
##                    "-2.174"  "4"    "11.43"   "3.418"
##                    "-2.177"  "0"    "4.16"    "1.911"
##                    "-2.177"  "0"    "4.23"    "1.943"
##                    "-2.191"  "13"   "23.37"   "4.733"
##                    "-2.199"  "7"    "15.28"   "3.766"
##                    "-2.2"    "1"    "5.9"     "2.227"
##                    "-2.201"  "46"   "61.97"   "7.255"
##                    "-2.202"  "1"    "6.81"    "2.639"
##                    "-2.202"  "5"    "12.25"   "3.292"
##                    "-2.208"  "0"    "4.16"    "1.884"
##                    "-2.21"   "0"    "4.27"    "1.932"
##                    "-2.21"   "0"    "4.33"    "1.959"
##                    "-2.21"   "16"   "26.99"   "4.974"
##                    "-2.21"   "0"    "4.27"    "1.932"
##                    "-2.21"   "0"    "4.33"    "1.959"
##                    "-2.21"   "0"    "4.33"    "1.959"
##                    "-2.21"   "0"    "4.33"    "1.959"
##                    "-2.21"   "0"    "4.33"    "1.959"
##                    "-2.212"  "10"   "19.24"   "4.178"
##                    "-2.218"  "0"    "4"       "1.803"
##                    "-2.219"  "0"    "4.38"    "1.973"
##                    "-2.22"   "1"    "6.6"     "2.523"
##                    "-2.225"  "0"    "5.02"    "2.256"
##                    "-2.228"  "2"    "7.48"    "2.46"
##                    "-2.229"  "127"  "156.66"  "13.307"
##                    "-2.23"   "0"    "4.08"    "1.83"
##                    "-2.234"  "1"    "7.44"    "2.883"
##                    "-2.237"  "0"    "4.31"    "1.926"
```

```
##                       "-2.241"  "0"    "4.24"     "1.892"
##                       "-2.243"  "107"  "130.73"   "10.579"
##                       "-2.248"  "0"    "4.35"     "1.935"
##                       "-2.25"   "0"    "3.64"     "1.618"
##                       "-2.256"  "0"    "5.53"     "2.451"
##                       "-2.256"  "0"    "3.46"     "1.534"
##                       "-2.258"  "0"    "4.36"     "1.931"
##                       "-2.262"  "0"    "5.63"     "2.489"
##                       "-2.264"  "0"    "4.13"     "1.824"
##                       "-2.268"  "46"   "62.34"    "7.206"
##                       "-2.269"  "27"   "40.57"    "5.98"
##                       "-2.27"   "1"    "6.84"     "2.573"
##                       "-2.271"  "12"   "22.56"    "4.65"
##                       "-2.272"  "37"   "50.89"    "6.113"
##                       "-2.272"  "0"    "5.35"     "2.354"
##                       "-2.273"  "1"    "7.25"     "2.75"
##                       "-2.275"  "5"    "13.76"    "3.851"
##                       "-2.277"  "6"    "13.33"    "3.219"
##                       "-2.278"  "0"    "4.99"     "2.19"
##                       "-2.284"  "0"    "5.16"     "2.26"
##                       "-2.285"  "2"    "8.7"      "2.932"
##                       "-2.285"  "99"   "121.58"   "9.881"
##                       "-2.287"  "0"    "5.66"     "2.475"
##                       "-2.298"  "0"    "4.46"     "1.941"
##                       "-2.298"  "0"    "4.46"     "1.941"
##                       "-2.304"  "5"    "11.59"    "2.861"
##                       "-2.304"  "0"    "4.19"     "1.819"
##                       "-2.306"  "0"    "5.74"     "2.489"
##                       "-2.311"  "406"  "453.35"   "20.487"
##                       "-2.315"  "0"    "6.34"     "2.739"
##                       "-2.316"  "33"   "48.07"    "6.508"
##                       "-2.316"  "5"    "12.46"    "3.221"
##                       "-2.32"   "3"    "10.48"    "3.224"
##                       "-2.32"   "3"    "10.48"    "3.224"
##                       "-2.321"  "0"    "5.09"     "2.193"
##                       "-2.322"  "0"    "4.77"     "2.054"
##                       "-2.323"  "24"   "39.05"    "6.48"
##                       "-2.323"  "0"    "4.46"     "1.92"
##                       "-2.329"  "3"    "9.1"      "2.619"
##                       "-2.333"  "0"    "4.48"     "1.92"
##                       "-2.337"  "3"    "10.81"    "3.341"
##                       "-2.342"  "13"   "23.08"    "4.303"
##                       "-2.347"  "1"    "6.68"     "2.42"
##                       "-2.348"  "0"    "5.17"     "2.202"
##                       "-2.349"  "0"    "4.06"     "1.728"
##                       "-2.351"  "3"    "9.78"     "2.884"
##                       "-2.357"  "6"    "14.29"    "3.517"
##                       "-2.362"  "0"    "4.98"     "2.108"
##                       "-2.362"  "2"    "9.08"     "2.997"
##                       "-2.362"  "4"    "11.08"    "2.997"
##                       "-2.364"  "0"    "4.33"     "1.832"
##                       "-2.365"  "0"    "5.91"     "2.499"
##                       "-2.365"  "0"    "5.86"     "2.478"
##                       "-2.386"  "117"  "142.35"   "10.626"
```

```
##                      "-2.389"  "1"    "6.48"    "2.294"
##                      "-2.389"  "64"   "87.97"   "10.034"
##                      "-2.39"   "62"   "81.33"   "8.088"
##                      "-2.393"  "6"    "14.66"   "3.619"
##                      "-2.396"  "16"   "25.91"   "4.137"
##                      "-2.398"  "0"    "4.61"    "1.922"
##                      "-2.399"  "56"   "78.16"   "9.237"
##                      "-2.401"  "0"    "6.75"    "2.812"
##                      "-2.402"  "7"    "17.08"   "4.196"
##                      "-2.408"  "16"   "28.72"   "5.282"
##                      "-2.409"  "8"    "18.49"   "4.354"
##                      "-2.411"  "0"    "6.48"    "2.687"
##                      "-2.413"  "2"    "9.05"    "2.921"
##                      "-2.416"  "126"  "153.64"  "11.44"
##                      "-2.416"  "3"    "9.75"    "2.794"
##                      "-2.421"  "8"    "16.61"   "3.556"
##                      "-2.423"  "0"    "5.28"    "2.179"
##                      "-2.423"  "6"    "14.18"   "3.377"
##                      "-2.423"  "0"    "5.28"    "2.179"
##                      "-2.425"  "1"    "6.33"    "2.198"
##                      "-2.425"  "3"    "11.19"   "3.378"
##                      "-2.426"  "0"    "7.42"    "3.059"
##                      "-2.428"  "14"   "26.67"   "5.219"
##                      "-2.43"   "18"   "31.33"   "5.487"
##                      "-2.431"  "0"    "5.66"    "2.328"
##                      "-2.431"  "0"    "5.66"    "2.328"
##                      "-2.432"  "0"    "4.88"    "2.006"
##                      "-2.432"  "0"    "4.88"    "2.006"
##                      "-2.432"  "0"    "4.88"    "2.006"
##                      "-2.435"  "0"    "5.43"    "2.23"
##                      "-2.445"  "0"    "5.08"    "2.078"
##                      "-2.446"  "22"   "37.1"    "6.173"
##                      "-2.448"  "1"    "6.57"    "2.275"
##                      "-2.449"  "2"    "8.41"    "2.617"
##                      "-2.456"  "1"    "9.87"    "3.612"
##                      "-2.463"  "0"    "7.13"    "2.894"
##                      "-2.465"  "4"    "12.63"   "3.501"
##                      "-2.466"  "20"   "34.54"   "5.897"
##                      "-2.467"  "0"    "4.05"    "1.641"
##                      "-2.468"  "1"    "6.65"    "2.289"
##                      "-2.471"  "0"    "6.13"    "2.481"
##                      "-2.471"  "4"    "13.44"   "3.82"
##                      "-2.472"  "4"    "13.74"   "3.941"
##                      "-2.474"  "2"    "9.48"    "3.023"
##                      "-2.478"  "10"   "20.94"   "4.415"
##                      "-2.479"  "0"    "6.94"    "2.799"
##                      "-2.488"  "21"   "36.72"   "6.318"
##                      "-2.494"  "3"    "11.2"    "3.288"
##                      "-2.495"  "1"    "6.27"    "2.112"
##                      "-2.495"  "0"    "4.31"    "1.727"
##                      "-2.499"  "8"    "18.15"   "4.061"
##                      "-2.5"    "25"   "40.24"   "6.095"
##                      "-2.502"  "1"    "8.29"    "2.914"
##                      "-2.507"  "13"   "23.81"   "4.313"
```

```
##                    "-2.51"   "5"     "13.57"   "3.415"
##                    "-2.513"  "1"     "6.97"    "2.376"
##                    "-2.516"  "202"   "238.61"  "14.553"
##                    "-2.516"  "0"     "4.88"    "1.94"
##                    "-2.521"  "3"     "10.82"   "3.102"
##                    "-2.529"  "0"     "6.96"    "2.752"
##                    "-2.531"  "2"     "9.65"    "3.023"
##                    "-2.534"  "3"     "10.23"   "2.853"
##                    "-2.536"  "175"   "212.07"  "14.619"
##                    "-2.542"  "1"     "8.62"    "2.998"
##                    "-2.547"  "29"    "45.5"    "6.478"
##                    "-2.549"  "0"     "5.71"    "2.24"
##                    "-2.549"  "0"     "5.71"    "2.24"
##                    "-2.557"  "1"     "6.76"    "2.252"
##                    "-2.566"  "2"     "9.45"    "2.904"
##                    "-2.567"  "0"     "6.56"    "2.556"
##                    "-2.568"  "30"    "45.64"   "6.089"
##                    "-2.57"   "0"     "6.15"    "2.393"
##                    "-2.57"   "7"     "18.74"   "4.567"
##                    "-2.57"   "7"     "18.74"   "4.567"
##                    "-2.57"   "7"     "18.74"   "4.567"
##                    "-2.573"  "50"    "69.72"   "7.665"
##                    "-2.574"  "61"    "81.79"   "8.078"
##                    "-2.574"  "4"     "14.12"   "3.932"
##                    "-2.574"  "7"     "15.76"   "3.403"
##                    "-2.576"  "1"     "7.73"    "2.613"
##                    "-2.577"  "0"     "8.26"    "3.205"
##                    "-2.578"  "0"     "5.27"    "2.044"
##                    "-2.578"  "1"     "8.2"     "2.792"
##                    "-2.579"  "2"     "9.49"    "2.904"
##                    "-2.584"  "2"     "10.16"   "3.158"
##                    "-2.592"  "3"     "12.4"    "3.627"
##                    "-2.592"  "0"     "6.46"    "2.492"
##                    "-2.595"  "0"     "5.3"     "2.042"
##                    "-2.596"  "0"     "5.23"    "2.014"
##                    "-2.598"  "38"    "59.59"   "8.31"
##                    "-2.603"  "0"     "5.81"    "2.232"
##                    "-2.612"  "0"     "5.5"     "2.106"
##                    "-2.618"  "11"    "23.65"   "4.831"
##                    "-2.618"  "2"     "11.52"   "3.636"
##                    "-2.622"  "50"    "71.25"   "8.105"
##                    "-2.625"  "145"   "175.51"  "11.622"
##                    "-2.628"  "186"   "226.9"   "15.561"
##                    "-2.63"   "2"     "11.38"   "3.567"
##                    "-2.64"   "0"     "6.45"    "2.443"
##                    "-2.642"  "0"     "6.92"    "2.62"
##                    "-2.642"  "0"     "6.92"    "2.62"
##                    "-2.642"  "0"     "6.92"    "2.62"
##                    "-2.644"  "1"     "6.78"    "2.186"
##                    "-2.644"  "0"     "6.1"     "2.307"
##                    "-2.647"  "0"     "5.99"    "2.263"
##                    "-2.649"  "0"     "6.92"    "2.612"
##                    "-2.661"  "0"     "7.01"    "2.634"
##                    "-2.664"  "4"     "12.78"   "3.295"
```

```
##                     "-2.664"  "0"     "8.64"    "3.243"
##                     "-2.665"  "2"     "9.91"    "2.968"
##                     "-2.666"  "14"    "27.24"   "4.967"
##                     "-2.667"  "3"     "12.78"   "3.667"
##                     "-2.677"  "3"     "11.46"   "3.16"
##                     "-2.679"  "0"     "5.8"     "2.165"
##                     "-2.679"  "1"     "8.08"    "2.643"
##                     "-2.679"  "1"     "8.36"    "2.747"
##                     "-2.681"  "196"   "240.61"  "16.642"
##                     "-2.681"  "0"     "6.58"    "2.454"
##                     "-2.686"  "23"    "38.99"   "5.954"
##                     "-2.69"   "3"     "9.95"    "2.583"
##                     "-2.701"  "47"    "65.89"   "6.993"
##                     "-2.703"  "11"    "24.68"   "5.061"
##                     "-2.719"  "0"     "7.15"    "2.63"
##                     "-2.721"  "9"     "22.81"   "5.075"
##                     "-2.721"  "0"     "7.41"    "2.723"
##                     "-2.728"  "1"     "8.84"    "2.873"
##                     "-2.728"  "1"     "8.84"    "2.873"
##                     "-2.737"  "43"    "63.51"   "7.493"
##                     "-2.739"  "10"    "21.15"   "4.071"
##                     "-2.757"  "0"     "6.05"    "2.194"
##                     "-2.758"  "0"     "7.27"    "2.636"
##                     "-2.766"  "4"     "15.54"   "4.172"
##                     "-2.767"  "0"     "6.85"    "2.476"
##                     "-2.769"  "1"     "8.37"    "2.662"
##                     "-2.771"  "132"   "165.7"   "12.16"
##                     "-2.774"  "7"     "18.07"   "3.991"
##                     "-2.774"  "1"     "9.48"    "3.057"
##                     "-2.776"  "0"     "7.94"    "2.86"
##                     "-2.776"  "24"    "38.1"    "5.08"
##                     "-2.779"  "19"    "35.57"   "5.962"
##                     "-2.784"  "0"     "6.63"    "2.381"
##                     "-2.785"  "113"   "142.55"  "10.612"
##                     "-2.794"  "15"    "28.58"   "4.86"
##                     "-2.797"  "0"     "6.49"    "2.32"
##                     "-2.798"  "3"     "14.18"   "3.996"
##                     "-2.801"  "1"     "8.2"     "2.57"
##                     "-2.802"  "0"     "9.75"    "3.48"
##                     "-2.809"  "1"     "8.73"    "2.752"
##                     "-2.81"   "16"    "30.87"   "5.293"
##                     "-2.814"  "0"     "9.52"    "3.383"
##                     "-2.821"  "1"     "10.13"   "3.237"
##                     "-2.822"  "0"     "9.34"    "3.31"
##                     "-2.823"  "11"    "24.74"   "4.867"
##                     "-2.833"  "6"     "16.55"   "3.724"
##                     "-2.843"  "0"     "5.79"    "2.037"
##                     "-2.843"  "2"     "9.93"    "2.79"
##                     "-2.844"  "4"     "14.15"   "3.569"
##                     "-2.85"   "0"     "6.12"    "2.147"
##                     "-2.85"   "2"     "10.41"   "2.951"
##                     "-2.85"   "3"     "12.67"   "3.394"
##                     "-2.86"   "0"     "7.42"    "2.594"
##                     "-2.862"  "0"     "7.16"    "2.501"
```

```
##                       "-2.87"   "0"    "8.42"    "2.934"
##                       "-2.871"  "0"    "8.38"    "2.919"
##                       "-2.873"  "0"    "7.06"    "2.457"
##                       "-2.875"  "1"    "9.75"    "3.043"
##                       "-2.879"  "12"   "25.39"   "4.651"
##                       "-2.885"  "0"    "8.23"    "2.853"
##                       "-2.887"  "2"    "11"      "3.117"
##                       "-2.89"   "0"    "7.77"    "2.689"
##                       "-2.891"  "34"   "55.28"   "7.361"
##                       "-2.894"  "1"    "9.41"    "2.906"
##                       "-2.894"  "1"    "9.41"    "2.906"
##                       "-2.899"  "1"    "12.13"   "3.839"
##                       "-2.902"  "11"   "23.87"   "4.435"
##                       "-2.903"  "0"    "7.11"    "2.449"
##                       "-2.907"  "3"    "11.99"   "3.093"
##                       "-2.908"  "19"   "33.83"   "5.099"
##                       "-2.911"  "91"   "124.78"  "11.604"
##                       "-2.913"  "4"    "13.93"   "3.409"
##                       "-2.922"  "3"    "13.64"   "3.642"
##                       "-2.923"  "20"   "37.08"   "5.843"
##                       "-2.928"  "2"    "10.21"   "2.804"
##                       "-2.93"   "10"   "23.1"    "4.471"
##                       "-2.949"  "5"    "15.22"   "3.466"
##                       "-2.951"  "0"    "6.37"    "2.159"
##                       "-2.951"  "0"    "6.37"    "2.159"
##                       "-2.951"  "0"    "6.37"    "2.159"
##                       "-2.953"  "1"    "10.18"   "3.109"
##                       "-2.955"  "0"    "8.34"    "2.822"
##                       "-2.96"   "0"    "5.88"    "1.986"
##                       "-2.962"  "28"   "46.24"   "6.158"
##                       "-2.963"  "0"    "5.93"    "2.001"
##                       "-2.964"  "63"   "92.65"   "10.002"
##                       "-2.973"  "2"    "11.39"   "3.159"
##                       "-2.978"  "0"    "7.76"    "2.606"
##                       "-2.979"  "43"   "65.09"   "7.416"
##                       "-2.983"  "12"   "25.42"   "4.5"
##                       "-2.998"  "2"    "14.26"   "4.089"
##                       "-3.001"  "0"    "7.54"    "2.512"
##                       "-3.003"  "2"    "11.03"   "3.007"
##                       "-3.004"  "2"    "10.65"   "2.879"
##                       "-3.007"  "5"    "17.22"   "4.064"
##                       "-3.011"  "4"    "14.9"    "3.62"
##                       "-3.013"  "12"   "25.74"   "4.561"
##                       "-3.027"  "0"    "9.43"    "3.115"
##                       "-3.027"  "23"   "40.14"   "5.662"
##                       "-3.037"  "143"  "183.98"  "13.493"
##                       "-3.041"  "47"   "72.45"   "8.368"
##                       "-3.047"  "3"    "13.92"   "3.584"
##                       "-3.048"  "165"  "207.32"  "13.883"
##                       "-3.049"  "49"   "77.49"   "9.343"
##                       "-3.055"  "4"    "15.35"   "3.716"
##                       "-3.062"  "14"   "30.21"   "5.294"
##                       "-3.062"  "8"    "22.89"   "4.864"
##                       "-3.069"  "2"    "11.89"   "3.222"
```

```
##                     "-3.069"  "2"    "11.89"   "3.222"
##                     "-3.069"  "0"    "11.6"    "3.779"
##                     "-3.077"  "1"    "11.63"   "3.454"
##                     "-3.078"  "1"    "11.54"   "3.424"
##                     "-3.098"  "4"    "17.8"    "4.454"
##                     "-3.101"  "42"   "67.79"   "8.316"
##                     "-3.103"  "2"    "11.2"    "2.964"
##                     "-3.106"  "112"  "149.13"  "11.955"
##                     "-3.113"  "20"   "39.94"   "6.405"
##                     "-3.124"  "2"    "11.07"   "2.903"
##                     "-3.128"  "14"   "31.23"   "5.508"
##                     "-3.14"   "4"    "16.28"   "3.911"
##                     "-3.14"   "4"    "16.28"   "3.911"
##                     "-3.14"   "4"    "16.28"   "3.911"
##                     "-3.14"   "4"    "16.28"   "3.911"
##                     "-3.147"  "15"   "34.2"    "6.1"
##                     "-3.159"  "7"    "22.04"   "4.761"
##                     "-3.163"  "23"   "43.58"   "6.506"
##                     "-3.166"  "0"    "9.98"    "3.153"
##                     "-3.171"  "41"   "68.07"   "8.537"
##                     "-3.185"  "342"  "405.18"  "19.839"
##                     "-3.195"  "11"   "24.17"   "4.122"
##                     "-3.196"  "0"    "9.89"    "3.094"
##                     "-3.198"  "2"    "12.97"   "3.43"
##                     "-3.204"  "5"    "17.37"   "3.86"
##                     "-3.212"  "5"    "18"      "4.048"
##                     "-3.22"   "29"   "50.39"   "6.644"
##                     "-3.223"  "4"    "15.95"   "3.707"
##                     "-3.224"  "16"   "36.3"    "6.297"
##                     "-3.228"  "0"    "9.31"    "2.884"
##                     "-3.232"  "1"    "11.91"   "3.376"
##                     "-3.232"  "0"    "10.46"   "3.236"
##                     "-3.238"  "74"   "107.12"  "10.228"
##                     "-3.239"  "3"    "17.45"   "4.462"
##                     "-3.24"   "9"    "23.18"   "4.377"
##                     "-3.241"  "7"    "20.84"   "4.27"
##                     "-3.247"  "0"    "8.62"    "2.654"
##                     "-3.248"  "2"    "13.06"   "3.405"
##                     "-3.26"   "12"   "31.75"   "6.058"
##                     "-3.262"  "95"   "129.74"  "10.649"
##                     "-3.266"  "0"    "9.22"    "2.823"
##                     "-3.273"  "10"   "26.84"   "5.146"
##                     "-3.285"  "0"    "11.69"   "3.558"
##                     "-3.285"  "66"   "100.89"  "10.622"
##                     "-3.296"  "5"    "19.29"   "4.335"
##                     "-3.315"  "0"    "10.19"   "3.074"
##                     "-3.316"  "3"    "13.64"   "3.208"
##                     "-3.331"  "0"    "11.77"   "3.533"
##                     "-3.332"  "27"   "51.15"   "7.248"
##                     "-3.343"  "7"    "19.81"   "3.832"
##                     "-3.348"  "0"    "8.8"     "2.629"
##                     "-3.348"  "15"   "34.12"   "5.711"
##                     "-3.35"   "1"    "11.85"   "3.239"
##                     "-3.36"   "2"    "16.18"   "4.22"
```

```
##                       "-3.361"   "14"    "35.22"    "6.314"
##                       "-3.368"   "1"     "11.75"    "3.192"
##                       "-3.379"   "5"     "21.63"    "4.921"
##                       "-3.382"   "11"    "25.56"    "4.305"
##                       "-3.385"   "1"     "12.14"    "3.291"
##                       "-3.419"   "0"     "9.62"     "2.813"
##                       "-3.423"   "8"     "24.99"    "4.963"
##                       "-3.429"   "276"   "345.9"    "20.387"
##                       "-3.436"   "118"   "165.66"   "13.869"
##                       "-3.444"   "27"    "49.49"    "6.53"
##                       "-3.448"   "0"     "10.23"    "2.967"
##                       "-3.453"   "0"     "10.99"    "3.183"
##                       "-3.455"   "0"     "10.56"    "3.056"
##                       "-3.459"   "14"    "37.3"     "6.735"
##                       "-3.468"   "4"     "20.47"    "4.749"
##                       "-3.468"   "4"     "20.47"    "4.749"
##                       "-3.468"   "4"     "20.47"    "4.749"
##                       "-3.47"    "37"    "62.04"    "7.217"
##                       "-3.474"   "34"    "60.49"    "7.626"
##                       "-3.476"   "0"     "12.82"    "3.688"
##                       "-3.477"   "2"     "14.22"    "3.515"
##                       "-3.478"   "0"     "11.97"    "3.442"
##                       "-3.484"   "4"     "15.35"    "3.258"
##                       "-3.488"   "2"     "16.87"    "4.263"
##                       "-3.49"    "18"    "39.35"    "6.117"
##                       "-3.497"   "84"    "118.44"   "9.848"
##                       "-3.512"   "0"     "12.84"    "3.656"
##                       "-3.528"   "38"    "66.44"    "8.062"
##                       "-3.533"   "38"    "67.08"    "8.231"
##                       "-3.534"   "102"   "144.96"   "12.155"
##                       "-3.538"   "8"     "26.08"    "5.11"
##                       "-3.549"   "4"     "17.16"    "3.708"
##                       "-3.552"   "33"    "55.34"    "6.29"
##                       "-3.56"    "0"     "12.28"    "3.45"
##                       "-3.572"   "7"     "24.83"    "4.991"
##                       "-3.574"   "8"     "24"       "4.477"
##                       "-3.593"   "10"    "29.08"    "5.31"
##                       "-3.594"   "19"    "37.16"    "5.053"
##                       "-3.602"   "4"     "20.26"    "4.514"
##                       "-3.607"   "0"     "13.06"    "3.62"
##                       "-3.607"   "20"    "42.46"    "6.227"
##                       "-3.618"   "2"     "16"       "3.869"
##                       "-3.635"   "7"     "22.58"    "4.286"
##                       "-3.642"   "115"   "155.27"   "11.058"
##                       "-3.655"   "52"    "89.78"    "10.335"
##                       "-3.656"   "0"     "10.8"     "2.954"
##                       "-3.663"   "10"    "27.05"    "4.654"
##                       "-3.675"   "0"     "12.6"     "3.429"
##                       "-3.679"   "4"     "26.83"    "6.205"
##                       "-3.686"   "45"    "71.95"    "7.312"
##                       "-3.686"   "13"    "35.22"    "6.028"
##                       "-3.688"   "34"    "63.49"    "7.997"
##                       "-3.691"   "38"    "71.23"    "9.004"
##                       "-3.696"   "0"     "11.87"    "3.212"
```

```
##                    "-3.697"  "7"    "24.94"   "4.853"
##                    "-3.697"  "1"    "14.94"   "3.771"
##                    "-3.702"  "1"    "14.84"   "3.738"
##                    "-3.714"  "23"   "51.96"   "7.798"
##                    "-3.723"  "0"    "12.61"   "3.387"
##                    "-3.726"  "1"    "13.19"   "3.271"
##                    "-3.736"  "7"    "26.7"    "5.273"
##                    "-3.738"  "4"    "22.47"   "4.941"
##                    "-3.74"   "11"   "32.1"    "5.642"
##                    "-3.754"  "2"    "18.46"   "4.384"
##                    "-3.757"  "1"    "16.27"   "4.065"
##                    "-3.762"  "0"    "13.41"   "3.565"
##                    "-3.767"  "3"    "17.47"   "3.841"
##                    "-3.806"  "23"   "51.16"   "7.399"
##                    "-3.81"   "4"    "22.68"   "4.903"
##                    "-3.815"  "0"    "14.23"   "3.73"
##                    "-3.835"  "1"    "13.47"   "3.252"
##                    "-3.845"  "15"   "41.54"   "6.903"
##                    "-3.856"  "7"    "24.86"   "4.632"
##                    "-3.874"  "0"    "12.16"   "3.139"
##                    "-3.876"  "2"    "18.55"   "4.27"
##                    "-3.885"  "53"   "92.44"   "10.152"
##                    "-3.891"  "0"    "12.95"   "3.328"
##                    "-3.912"  "1"    "18.15"   "4.384"
##                    "-3.919"  "18"   "43.73"   "6.566"
##                    "-3.925"  "11"   "31.35"   "5.184"
##                    "-3.928"  "0"    "9.39"    "2.391"
##                    "-3.928"  "2"    "16.07"   "3.582"
##                    "-3.93"   "0"    "16.86"   "4.29"
##                    "-3.937"  "2"    "17.07"   "3.828"
##                    "-3.94"   "3"    "21.04"   "4.579"
##                    "-3.947"  "10"   "29.79"   "5.014"
##                    "-3.95"   "0"    "17.86"   "4.522"
##                    "-3.961"  "3"    "17.32"   "3.615"
##                    "-3.969"  "5"    "21.13"   "4.064"
##                    "-3.974"  "7"    "26.79"   "4.979"
##                    "-3.978"  "2"    "16.83"   "3.728"
##                    "-3.982"  "5"    "24.04"   "4.782"
##                    "-3.985"  "46"   "81.99"   "9.03"
##                    "-3.985"  "7"    "26.13"   "4.8"
##                    "-3.987"  "40"   "72.89"   "8.25"
##                    "-3.988"  "14"   "39.45"   "6.382"
##                    "-3.99"   "3"    "20.96"   "4.501"
##                    "-4.005"  "62"   "101.49"  "9.86"
##                    "-4.01"   "0"    "14.3"    "3.566"
##                    "-4.015"  "6"    "25.55"   "4.869"
##                    "-4.046"  "69"   "112.92"  "10.855"
##                    "-4.054"  "0"    "13.03"   "3.214"
##                    "-4.054"  "0"    "13.03"   "3.214"
##                    "-4.059"  "53"   "88.39"   "8.719"
##                    "-4.078"  "6"    "32.27"   "6.441"
##                    "-4.08"   "46"   "79.98"   "8.328"
##                    "-4.106"  "6"    "28.81"   "5.555"
##                    "-4.113"  "5"    "26.25"   "5.167"
```

```
##                    "-4.135"  "5"     "22.82"   "4.31"
##                    "-4.136"  "2"     "20.03"   "4.359"
##                    "-4.162"  "2"     "22.68"   "4.968"
##                    "-4.172"  "4"     "23.73"   "4.729"
##                    "-4.173"  "36"    "71.43"   "8.49"
##                    "-4.186"  "5"     "21.27"   "3.887"
##                    "-4.198"  "13"    "39.69"   "6.358"
##                    "-4.2"    "6"     "25.54"   "4.652"
##                    "-4.204"  "276"   "352.81"  "18.271"
##                    "-4.225"  "52"    "93.78"   "9.889"
##                    "-4.229"  "40"    "74.86"   "8.243"
##                    "-4.23"   "0"     "18.86"   "4.459"
##                    "-4.235"  "8"     "32.39"   "5.759"
##                    "-4.24"   "25"    "56.76"   "7.49"
##                    "-4.244"  "37"    "75.2"    "9.001"
##                    "-4.262"  "13"    "33.53"   "4.817"
##                    "-4.263"  "6"     "25.9"    "4.668"
##                    "-4.278"  "17"    "44.78"   "6.494"
##                    "-4.28"   "26"    "59.36"   "7.795"
##                    "-4.283"  "7"     "29.68"   "5.295"
##                    "-4.311"  "2"     "20.13"   "4.206"
##                    "-4.312"  "29"    "68.6"    "9.183"
##                    "-4.313"  "1"     "23.38"   "5.189"
##                    "-4.32"   "0"     "14.43"   "3.34"
##                    "-4.322"  "10"    "35.79"   "5.967"
##                    "-4.335"  "377"   "467.47"  "20.869"
##                    "-4.341"  "4"     "24.94"   "4.824"
##                    "-4.349"  "5"     "24.19"   "4.412"
##                    "-4.361"  "2"     "17.01"   "3.442"
##                    "-4.429"  "36"    "75.68"   "8.959"
##                    "-4.438"  "7"     "25.99"   "4.279"
##                    "-4.442"  "10"    "35.29"   "5.693"
##                    "-4.448"  "4"     "23.73"   "4.436"
##                    "-4.449"  "11"    "44.36"   "7.499"
##                    "-4.454"  "8"     "35.15"   "6.096"
##                    "-4.456"  "1"     "22.52"   "4.829"
##                    "-4.463"  "9"     "31.72"   "5.091"
##                    "-4.475"  "21"    "48.89"   "6.233"
##                    "-4.5"    "0"     "18.53"   "4.118"
##                    "-4.506"  "55"    "91.74"   "8.153"
##                    "-4.528"  "8"     "32.38"   "5.384"
##                    "-4.544"  "10"    "34.31"   "5.35"
##                    "-4.56"   "37"    "76.42"   "8.645"
##                    "-4.565"  "406"   "502.77"  "21.2"
##                    "-4.57"   "0"     "16.8"    "3.676"
##                    "-4.571"  "10"    "38.45"   "6.224"
##                    "-4.576"  "31"    "69.73"   "8.464"
##                    "-4.578"  "2"     "21.47"   "4.253"
##                    "-4.582"  "0"     "18.37"   "4.009"
##                    "-4.589"  "5"     "26.62"   "4.711"
##                    "-4.597"  "0"     "22.34"   "4.86"
##                    "-4.6"    "195"   "257.75"  "13.642"
##                    "-4.633"  "3"     "20.96"   "3.877"
##                    "-4.669"  "6"     "28.84"   "4.892"
```

```
##                     "-4.671"  "7"    "31.04"   "5.146"
##                     "-4.671"  "0"    "13.35"   "2.858"
##                     "-4.68"   "49"   "86.51"   "8.016"
##                     "-4.741"  "5"    "28.15"   "4.883"
##                     "-4.75"   "8"    "30.28"   "4.691"
##                     "-4.765"  "1"    "24.99"   "5.034"
##                     "-4.804"  "17"   "44.14"   "5.65"
##                     "-4.845"  "25"   "65.61"   "8.382"
##                     "-4.847"  "0"    "23.38"   "4.824"
##                     "-4.857"  "19"   "55.34"   "7.482"
##                     "-4.865"  "55"   "108.64"  "11.027"
##                     "-4.866"  "1"    "24.53"   "4.836"
##                     "-4.873"  "75"   "127.69"  "10.813"
##                     "-4.88"   "93"   "144.63"  "10.581"
##                     "-4.88"   "49"   "93.37"   "9.093"
##                     "-4.927"  "846"  "993.78"  "29.993"
##                     "-4.929"  "31"   "69.94"   "7.901"
##                     "-4.946"  "33"   "71.53"   "7.791"
##                     "-4.952"  "443"  "568.51"  "25.345"
##                     "-4.968"  "11"   "36.54"   "5.141"
##                     "-5.025"  "16"   "53.78"   "7.519"
##                     "-5.04"   "9"    "41.4"    "6.429"
##                     "-5.047"  "29"   "72.06"   "8.533"
##                     "-5.105"  "6"    "34.7"    "5.622"
##                     "-5.118"  "39"   "87.86"   "9.547"
##                     "-5.174"  "0"    "28.06"   "5.423"
##                     "-5.207"  "2"    "26.84"   "4.771"
##                     "-5.21"   "142"  "223.3"   "15.605"
##                     "-5.251"  "102"  "173.39"  "13.594"
##                     "-5.276"  "15"   "49.55"   "6.548"
##                     "-5.305"  "16"   "54.97"   "7.346"
##                     "-5.314"  "416"  "546.98"  "24.65"
##                     "-5.316"  "8"    "48.93"   "7.699"
##                     "-5.338"  "77"   "138.96"  "11.606"
##                     "-5.38"   "13"   "46.56"   "6.238"
##                     "-5.393"  "0"    "28.13"   "5.216"
##                     "-5.4"    "3"    "36.05"   "6.121"
##                     "-5.424"  "18"   "58.61"   "7.487"
##                     "-5.425"  "2"    "30.37"   "5.229"
##                     "-5.428"  "101"  "172.02"  "13.084"
##                     "-5.429"  "493"  "628.12"  "24.889"
##                     "-5.433"  "69"   "127.57"  "10.781"
##                     "-5.479"  "5"    "36.55"   "5.758"
##                     "-5.494"  "181"  "282.18"  "18.416"
##                     "-5.505"  "19"   "67.87"   "8.878"
##                     "-5.519"  "22"   "59.78"   "6.845"
##                     "-5.56"   "0"    "21.26"   "3.823"
##                     "-5.561"  "27"   "81.55"   "9.81"
##                     "-5.57"   "229"  "321.09"  "16.534"
##                     "-5.59"   "52"   "112.22"  "10.774"
##                     "-5.602"  "5"    "39.5"    "6.159"
##                     "-5.621"  "41"   "89.94"   "8.707"
##                     "-5.647"  "15"   "50.53"   "6.292"
##                     "-5.654"  "1"    "35.74"   "6.144"
```

```
##                      "-5.719"  "249"    "366.68"   "20.576"
##                      "-5.741"  "1"      "33.18"    "5.606"
##                      "-5.78"   "68"     "126.28"   "10.084"
##                      "-5.793"  "0"      "37.59"    "6.489"
##                      "-5.832"  "8"      "41.9"     "5.813"
##                      "-5.899"  "2"      "43.77"    "7.081"
##                      "-5.938"  "266"    "373.81"   "18.156"
##                      "-5.938"  "62"     "128.53"   "11.204"
##                      "-5.954"  "6"      "42.47"    "6.126"
##                      "-6.049"  "2"      "34.29"    "5.338"
##                      "-6.064"  "62"     "125.3"    "10.438"
##                      "-6.071"  "38"     "100.45"   "10.286"
##                      "-6.087"  "19"     "73.05"    "8.879"
##                      "-6.129"  "25"     "81.8"     "9.268"
##                      "-6.156"  "0"      "35.1"     "5.702"
##                      "-6.19"   "16"     "63.67"    "7.702"
##                      "-6.193"  "17"     "61.8"     "7.233"
##                      "-6.212"  "90"     "157.76"   "10.907"
##                      "-6.22"   "0"      "24.93"    "4.008"
##                      "-6.221"  "37"     "82.69"    "7.344"
##                      "-6.239"  "64"     "127.62"   "10.197"
##                      "-6.255"  "601"    "749.06"   "23.669"
##                      "-6.359"  "15"     "66.48"    "8.096"
##                      "-6.364"  "64"     "149.75"   "13.475"
##                      "-6.404"  "113"    "205.73"   "14.479"
##                      "-6.405"  "0"      "51.89"    "8.101"
##                      "-6.411"  "0"      "46.76"    "7.293"
##                      "-6.519"  "70"     "152.54"   "12.661"
##                      "-6.578"  "0"      "41.6"     "6.325"
##                      "-6.665"  "59"     "124.92"   "9.89"
##                      "-6.707"  "11"     "67.3"     "8.394"
##                      "-6.747"  "140"    "237.55"   "14.457"
##                      "-6.778"  "45"     "118.14"   "10.791"
##                      "-6.817"  "45"     "114.09"   "10.136"
##                      "-6.863"  "196"    "317.51"   "17.705"
##                      "-6.868"  "552"    "719.61"   "24.406"
##                      "-6.942"  "1"      "39.7"     "5.575"
##                      "-6.99"   "8"      "55.73"    "6.828"
##                      "-6.992"  "43"     "120.64"   "11.104"
##                      "-7.171"  "41"     "106.83"   "9.18"
##                      "-7.179"  "0"      "61.62"    "8.583"
##                      "-7.313"  "157"    "277.22"   "16.438"
##                      "-7.352"  "113"    "208.97"   "13.053"
##                      "-7.385"  "17"     "77.89"    "8.245"
##                      "-7.387"  "8"      "60.65"    "7.127"
##                      "-7.517"  "30"     "126.32"   "12.814"
##                      "-7.522"  "412"    "598.15"   "24.747"
##                      "-7.569"  "4792"   "5501.34"  "93.718"
##                      "-7.572"  "13"     "63.98"    "6.733"
##                      "-7.649"  "382"    "593.41"   "27.638"
##                      "-7.705"  "61"     "151.94"   "11.802"
##                      "-7.714"  "31"     "112.48"   "10.562"
##                      "-7.746"  "9"      "98.53"    "11.558"
##                      "-7.783"  "92"     "186.54"   "12.148"
```

```
##                    "-7.811"  "32"    "115.08"  "10.636"
##                    "-7.812"  "34"    "122.48"  "11.326"
##                    "-7.89"   "227"   "379.06"  "19.271"
##                    "-7.921"  "172"   "276.48"  "13.191"
##                    "-7.936"  "38"    "117.45"  "10.011"
##                    "-7.96"   "41"    "112.78"  "9.018"
##                    "-8.058"  "489"   "685.17"  "24.344"
##                    "-8.159"  "254"   "407.11"  "18.766"
##                    "-8.222"  "5"     "78.61"   "8.953"
##                    "-8.305"  "108"   "224"     "13.968"
##                    "-8.324"  "86"    "197.05"  "13.34"
##                    "-8.378"  "2"     "76.67"   "8.913"
##                    "-8.398"  "2"     "76.4"    "8.859"
##                    "-8.417"  "82"    "209.45"  "15.143"
##                    "-8.584"  "155"   "292.13"  "15.975"
##                    "-8.648"  "153"   "279.87"  "14.671"
##                    "-8.815"  "103"   "230.79"  "14.497"
##                    "-8.883"  "27"    "121.2"   "10.604"
##                    "-8.957"  "33"    "127.42"  "10.542"
##                    "-9.274"  "1026"  "1341.62" "34.033"
##                    "-9.29"   "3"     "88.81"   "9.237"
##                    "-9.305"  "61"    "173.43"  "12.083"
##                    "-9.338"  "57"    "160.77"  "11.113"
##                    "-9.395"  "36"    "124.06"  "9.373"
##                    "-9.45"   "1"     "78.27"   "8.177"
##                    "-9.562"  "3"     "80.47"   "8.102"
##                    "-9.617"  "101"   "249.93"  "15.487"
##                    "-9.651"  "100"   "241.24"  "14.634"
##                    "-10.064" "3"     "85.35"   "8.183"
##                    "-10.153" "555"   "864.22"  "30.456"
##                    "-10.195" "2570"  "3161.45" "58.016"
##                    "-10.276" "1181"  "1541.13" "35.047"
##                    "-10.641" "0"     "105.92"  "9.954"
##                    "-10.652" "254"   "525.79"  "25.515"
##                    "-11.368" "91"    "246.66"  "13.692"
##                    "-11.404" "321"   "573.88"  "22.175"
##                    "-11.534" "2"     "114.22"  "9.729"
##                    "-12.003" "468"   "777.18"  "25.759"
##                    "-12.049" "810"   "1174.76" "30.272"
##                    "-12.1"   "619"   "1028.87" "33.874"
##                    "-13.794" "17894" "19099.7" "87.411"
##                    "-15.521" "686"   "1156.59" "30.319"
##                    "-19.089" "690"   "1297.68" "31.833"
##                    "-26.78"  "1880"  "3424.3"  "57.666"
##                    "-26.82"  "14"    "594.76"  "21.654"
##                    "-33.911" "852"   "2379.03" "45.03"
```

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write.table(mf.enriched.terms, file="output/genes.mf.txt", sep="\t", row.names = F, col.names = F, quote
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