

Table S2. Differentially regulated genes (up and down regulated) in the control compared with THyPRP silenced plants in FAZ at 0 h along with their expression values, fold changes, annotations, GO ids and terms.

Worksheet 2 & 3

Samples

Set1				
Line	Array	Details	Time	Analysis
Control – New Yorker	254331010025_1_1	0h_1_AZ	0h	Control
Control – New Yorker	254331010025_1_2	0h_2_AZ	0h	
TAPG + TPRP	254331010034_1_1	0h_37_AZ	0h	Treated
TAPG + TPRP	254331010034_1_2	0h_38_AZ	0h	

Note:

Fold change expression values are provided as logbase 2

Flagging Criteria:

Compromised: If the gProcessedSignal value is less than the background intensity

Detected: If the gProcessedSignal value is above background intensity

Column Header	Description
ProbeName	Unique probe identifier
GeneName	GeneSymbol
Fold	Fold change calculated is log base 2
Flag	Detected or Compromised
GeomeanFold	Average Fold change for the replicates calculated is log base 2
p-Value	t-test p- value
gProcessedSigna	Background subtracted signal intensity

Worksheet 4 & 5

This file contains the fold change for all the spots in the array

GO ID

Gene Ontology ID

GO ACCESSION

Gene Ontology Function name

p-value :

The probability of obtaining the specified GO accession number from a list of random entities. Less the p-value more significant is the GO accession number.

Significant pvalue<0.05

Count in Selection :

This refers to the number of genes in the selected entity (for example, from T-test) list which have that particular GO term.

%Count in Selection :

This refers to the percentage of genes in the input entity list which have that GO term.

Count in Total :

This refers to the number of genes in All Entities which have that GO term.

%Count in Total :

This refers to the percentage of genes in the All Entities list which have that GO term.

Cut off used to filter up and down regulated genes

Upregulated

For filtering upregulation we consider flag should be Detected in the treated sample and can be Compromised or Detected in the control sample and fold>=0.8 in the individual replicates and fold>=1 in the Geomean of treated samples.

Downregulated

For filtering downregulation we consider flag can be Detected or Compromised in the treated sample and should be Detected in the control sample and fold<=-0.8 in the individual replicates and fold<=-1 in the Geomean of treated samples.

Differentially Regulated Probes

Sample	Up	Down
0h_TPRP_AZ vs. 0h_Control_AZ_Sense	1208	416
0h_TPRP_AZ vs. 0h_Control_AZ_Antisense	862	216





























GO ID	GO ACCESSION	GO Term	p-value	Count in Selection	Count in Selecti	Count in Total	% Count in Total
4459	GO:0006259 GO:0055132	DNA metabolic process	0.00	41	11.357341	493	1.4237444
4476	GO:0006278	RNA-dependent DNA replication	0.00	27	7.479224	166	0.4793947
4460	GO:0006260 GO:0055133	DNA replication	0.00	27	7.479224	224	0.64689404
8493	GO:0015074	DNA integration	0.00	14	3.8781164	47	0.13573223
31895	GO:0090304	nucleic acid metabolic process	0.00	50	13.850415	2340	6.7577324
19473	GO:0043170 GO:0043283	macromolecule metabolic process	0.00	105	29.085873	6553	18.92454
20510	GO:0044260 GO:0034960	cellular macromolecule metabolic p	0.00	87	24.099724	5577	16.105928
4357	GO:0006139 GO:0055134	nucleobase, nucleoside, nucleotide	0.00	57	15.789474	3285	9.486816
7074	GO:0009815	1-aminocyclopropane-1-carboxylat	0.00	5	1.3850416	49	0.14150807
9722	GO:0016641	oxidoreductase activity, acting on t	0.00	5	1.3850416	69	0.19926646
17024	GO:0034645 GO:0034961	cellular macromolecule biosynthesi	0.00	36	9.9723	1999	5.7729516
6428	GO:0009059 GO:0043284	macromolecule biosynthetic proces	0.00	36	9.9723	2003	5.7845035
20488	GO:0044238	primary metabolic process	0.00	122	33.795013	9167	26.47356
17020	GO:0034641	cellular nitrogen compound metabo	0.00	57	15.789474	3678	10.621769
4906	GO:0006807	nitrogen compound metabolic proc	0.00	57	15.789474	3725	10.757502
9719	GO:0016638	oxidoreductase activity, acting on t	0.00	5	1.3850416	89	0.25702485
5791	GO:0008270	zinc ion binding	0.00	33	9.141274	1880	5.4292893
22415	GO:0046914	transition metal ion binding	0.01	41	11.357341	2599	7.5057034
31431	GO:0080054	low affinity nitrate transmembrane t	0.01	3	0.83102494	45	0.1299564
4641	GO:0006508	proteolysis	0.01	18	4.98615	965	2.7868426
21331	GO:0045735	nutrient reservoir activity	0.01	4	1.1080333	89	0.25702485
2986	GO:0004252	serine-type endopeptidase activity	0.02	5	1.3850416	144	0.41586044
2975	GO:0004175 GO:0016809	endopeptidase activity	0.02	8	2.2160666	320	0.9241344
5907	GO:0008413	8-oxo-7,8-dihydroguanosine triphos	0.02	1	0.27700832	2	0.00577584
11186	GO:0019177	dihydroneopterin triphosphate pyr	0.02	1	0.27700832	2	0.00577584
5636	GO:0008061	chitin binding	0.02	2	0.55401665	23	0.06642216
8526	GO:0015112	nitrate transmembrane transporter	0.03	3	0.83102494	61	0.1761631
8975	GO:0015706 GO:0006872	nitrate transport	0.03	3	0.83102494	61	0.1761631
9876	GO:0016837	carbon-oxygen lyase activity, actin	0.03	2	0.55401665	25	0.072197996
13054	GO:0030570	pectate lyase activity	0.03	2	0.55401665	25	0.072197996
22375	GO:0046872	metal ion binding	0.03	42	11.634349	2985	8.6204405
19470	GO:0043167	ion binding	0.03	42	11.634349	2997	8.655096
19472	GO:0043169	cation binding	0.03	42	11.634349	2997	8.655096
4990	GO:0006915 GO:0008632	apoptosis	0.03	6	1.6620499	227	0.6555578
3307	GO:0004675	transmembrane receptor protein se	0.04	8	2.2160666	367	1.0598665
5756	GO:0008219	cell death	0.04	6	1.6620499	239	0.69021285
8209	GO:0012501 GO:0016244	programmed cell death	0.04	6	1.6620499	239	0.69021285
9462	GO:0016265	death	0.04	6	1.6620499	239	0.69021285
2710	GO:0003860	3-hydroxyisobutyryl-CoA hydrolase	0.04	1	0.27700832	4	0.011551679
3717	GO:0005199	structural constituent of cell wall	0.04	2	0.55401665	32	0.09241343
11522	GO:0019538 GO:0006411	protein metabolic process	0.05	54	14.958448	4134	11.938661
12806	GO:0030247	polysaccharide binding	0.05	2	0.55401665	35	0.10107719
1169	GO:0001871	pattern binding	0.05	2	0.55401665	35	0.10107719
20499	GO:0044249	cellular biosynthetic process	0.06	36	9.9723	2635	7.6096687
2713	GO:0003863	3-methyl-2-oxobutanoate dehydro	0.06	1	0.27700832	6	0.01732752
3073	GO:0004397	histidine ammonia-lyase activity	0.06	1	0.27700832	6	0.01732752
5810	GO:0008290	F-actin capping protein complex	0.06	1	0.27700832	6	0.01732752
14264	GO:0031849	olfactory receptor binding	0.06	1	0.27700832	6	0.01732752
5891	GO:0008395 GO:0008394	steroid hydroxylase activity	0.07	2	0.55401665	40	0.1155168
20487	GO:0044237	cellular metabolic process	0.07	98	27.146814	8185	23.637625
21149	GO:0045548	phenylalanine ammonia-lyase activ	0.07	1	0.27700832	7	0.020215439
8461	GO:0015020 GO:0003981	glucuronosyltransferase activity	0.07	2	0.55401665	42	0.121292636
13884	GO:0031461	cullin-RING ubiquitin ligase comple	0.07	2	0.55401665	42	0.121292636
5766	GO:0008236	serine-type peptidase activity	0.07	5	1.3850416	214	0.6180149
6427	GO:0009058	biosynthetic process	0.08	37	10.249308	2796	8.074624
10103	GO:0017171	serine hydrolase activity	0.08	5	1.3850416	220	0.63534236
4612	GO:0006468	protein phosphorylation	0.08	30	8.310249	2205	6.367863
11202	GO:0019199	transmembrane receptor protein ki	0.08	9	2.493075	504	1.4555116
7225	GO:0009978	allene oxide synthase activity	0.09	1	0.27700832	9	0.025991278
7506	GO:0010279	indole-3-acetic acid amido synthet	0.09	1	0.27700832	9	0.025991278
19342	GO:0043027	caspase inhibitor activity	0.09	1	0.27700832	9	0.025991278
19343	GO:0043028	caspase regulator activity	0.09	1	0.27700832	9	0.025991278
19458	GO:0043154 GO:0001719	negative regulation of caspase act	0.09	1	0.27700832	9	0.025991278
19579	GO:0043281 GO:0043026	regulation of caspase activity	0.09	1	0.27700832	9	0.025991278
3476	GO:0004872 GO:0019041	receptor activity	0.10	11	3.0470915	672	1.9406822
983	GO:0001664	G-protein-coupled receptor binding	0.10	1	0.27700832	10	0.0288792
3156	GO:0004497	monooxygenase activity	0.11	4	1.1080333	172	0.49672222
7690	GO:0010466	negative regulation of peptidase ac	0.11	3	0.83102494	110	0.31767118
12946	GO:0030414	peptidase inhibitor activity	0.11	3	0.83102494	110	0.31767118
25636	GO:0051346	negative regulation of hydrolase ac	0.11	3	0.83102494	110	0.31767118
6013	GO:0008553	hydrogen-exporting ATPase activit	0.11	1	0.27700832	11	0.03176712
5702	GO:0008146	sulfotransferase activity	0.11	2	0.55401665	54	0.15594767
9768	GO:0016706	oxidoreductase activity, acting on p	0.11	4	1.1080333	175	0.505386
26711	GO:0052547	regulation of peptidase activity	0.11	3	0.83102494	112	0.32344702
28100	GO:0061134	peptidase regulator activity	0.11	3	0.83102494	112	0.32344702
6946	GO:0009678	hydrogen-translocating pyrophosph	0.12	1	0.27700832	12	0.03465504
7526	GO:0010301 GO:0033710	xanthoxin dehydrogenase activity	0.12	1	0.27700832	12	0.03465504
3475	GO:0004871 GO:0005062	signal transducer activity	0.12	12	3.3240998	787	2.2727928
27063	GO:0060089	molecular transducer activity	0.12	12	3.3240998	787	2.2727928
24966	GO:0005060	flavin adenine dinucleotide binding	0.13	3	0.83102494	118	0.34077454
30700	GO:0072341	modified amino acid binding	0.13	2	0.55401665	59	0.17038727
7229	GO:0009987 GO:0008151	cellular process	0.13	121	33.518005	10601	30.614838
8149	GO:0010941	regulation of cell death	0.13	1	0.27700832	13	0.037542958
19298	GO:0042981	regulation of apoptosis	0.13	1	0.27700832	13	0.037542958
19381	GO:0043067 GO:0043070	regulation of programmed cell deat	0.13	1	0.27700832	13	0.037542958
6884	GO:0009607	response to biotic stimulus	0.14	3	0.83102494	122	0.3523262
8553	GO:0015140	malate transmembrane transporter	0.14	1	0.27700832	14	0.040430877
8859	GO:0015556	C4-dicarboxylate transmembrane t	0.14	1	0.27700832	14	0.040430877
9009	GO:0015740	C4-dicarboxylate transport	0.14	1	0.27700832	14	0.040430877
9012	GO:0015743	malate transport	0.14	1	0.27700832	14	0.040430877
9879	GO:0016841	ammonia-lyase activity	0.14	1	0.27700832	14	0.040430877
29787	GO:0071423	malate transmembrane transport	0.14	1	0.27700832	14	0.040430877
31408	GO:0080031	methyl salicylate esterase activity	0.14	1	0.27700832	14	0.040430877
3490	GO:0004888 GO:0004926	transmembrane receptor activity	0.15	9	2.493075	571	1.6490022
3306	GO:0004674 GO:0004695	protein serine/threonine kinase act	0.15	15	4.1551247	1062	3.0669708



3473	GO:0004867	serine-type endopeptidase inhibitor	0.15	2	0.55401665	66	0.1906027
3742	GO:0005242	inward rectifier potassium channel	0.15	1	0.27700832	16	0.046206716
3782	GO:0005310 GO:0005312	dicarboxylic acid transmembrane transporter	0.15	1	0.27700832	16	0.046206716
4928	GO:0006835 GO:0006841	dicarboxylic acid transport	0.15	1	0.27700832	16	0.046206716
9386	GO:0016157	sucrose synthase activity	0.15	1	0.27700832	16	0.046206716
9878	GO:0016840	carbon-nitrogen lyase activity	0.15	1	0.27700832	16	0.046206716
18955	GO:0042625	ATPase activity, coupled to transmembrane transport	0.16	2	0.55401665	68	0.19637854
9874	GO:0016835	carbon-oxygen lyase activity	0.16	4	1.1080333	202	0.5833598
3801	GO:0005342	organic acid transmembrane transporter	0.17	3	0.83102494	136	0.3927571
22444	GO:0046943	carboxylic acid transmembrane transporter	0.17	3	0.83102494	136	0.3927571
4225	GO:0005985	sucrose metabolic process	0.17	1	0.27700832	18	0.051982556
12887	GO:0030332	cyclin binding	0.17	1	0.27700832	18	0.051982556
22917	GO:0047429	nucleoside-triphosphate diphosphatase activity	0.17	1	0.27700832	18	0.051982556
9832	GO:0016782	transferase activity, transferring sulfur	0.18	2	0.55401665	74	0.21370606
2895	GO:0004089	carbonate dehydratase activity	0.18	1	0.27700832	19	0.054870475
9493	GO:0016310	phosphorylation	0.18	31	8.587257	2504	7.2313514
4609	GO:0006464	protein modification process	0.19	34	9.4182825	2781	8.031305
6201	GO:0008794	arsenate reductase (glutaredoxin) activity	0.19	1	0.27700832	20	0.0577584
9707	GO:0016624	oxidoreductase activity, acting on tetravalent inorganic anions	0.19	1	0.27700832	20	0.0577584
9784	GO:0016723	oxidoreductase activity, oxidizing nitrogen	0.19	1	0.27700832	20	0.0577584
13086	GO:0030611	arsenate reductase activity	0.19	1	0.27700832	20	0.0577584
13088	GO:0030613	oxidoreductase activity, acting on divalent inorganic anions	0.19	1	0.27700832	20	0.0577584
13089	GO:0030614	oxidoreductase activity, acting on monovalent inorganic anions	0.19	1	0.27700832	20	0.0577584
225	GO:0000293	ferric-chelate reductase activity	0.19	1	0.27700832	20	0.0577584
3474	GO:0004869 GO:0004870	cysteine-type endopeptidase inhibitor	0.20	1	0.27700832	21	0.060646318
5019	GO:0006952 GO:0002217	defense response	0.20	4	1.1080333	221	0.63823026
28378	GO:0070011	peptidase activity, acting on L-amino acids	0.20	8	2.2160666	537	1.550813
9682	GO:0016597	amino acid binding	0.20	2	0.55401665	80	0.2310336
9875	GO:0016836	hydro-lyase activity	0.20	2	0.55401665	80	0.2310336
19479	GO:0043176	amine binding	0.20	2	0.55401665	80	0.2310336
12660	GO:0030077	plasma membrane light-harvesting complex	0.21	1	0.27700832	22	0.06353424
13038	GO:0030551	cyclic nucleotide binding	0.21	1	0.27700832	22	0.06353424
19040	GO:0042716	plasma membrane-derived chromatin	0.21	1	0.27700832	22	0.06353424
3827	GO:0005372	water transmembrane transporter activity	0.21	2	0.55401665	81	0.23392151
4927	GO:0006833	water transport	0.21	2	0.55401665	81	0.23392151
8652	GO:0015250	water channel activity	0.21	2	0.55401665	81	0.23392151
18429	GO:0042044	fluid transport	0.21	2	0.55401665	81	0.23392151
7527	GO:0010302	2-oxoglutarate-dependent dioxygenase activity	0.21	1	0.27700832	23	0.06642216
8517	GO:0015103	inorganic anion transmembrane transporter	0.22	3	0.83102494	154	0.44473964
11931	GO:0020037	heme binding	0.22	8	2.2160666	550	1.5883559
3213	GO:0004568	chitinase activity	0.22	1	0.27700832	24	0.06931008
6248	GO:0008843	endochitinase activity	0.22	1	0.27700832	24	0.06931008
31407	GO:0080030	methyl indole-3-acetate esterase activity	0.22	1	0.27700832	24	0.06931008
9114	GO:0015849	organic acid transport	0.22	3	0.83102494	156	0.45051548
22443	GO:0046942	carboxylic acid transport	0.22	3	0.83102494	156	0.45051548
3464	GO:0004857	enzyme inhibitor activity	0.23	3	0.83102494	157	0.4534034
22459	GO:0046961	proton-transporting ATPase activity	0.23	1	0.27700832	25	0.072197996
31493	GO:0080118	brassinosteroid sulfotransferase activity	0.23	1	0.27700832	25	0.072197996
119	GO:0000151	ubiquitin ligase complex	0.23	2	0.55401665	88	0.25413695
8496	GO:0015078	hydrogen ion transmembrane transporter	0.23	3	0.83102494	160	0.4620672
3872	GO:0005506	iron ion binding	0.24	8	2.2160666	563	1.6258988
3210	GO:0004565	beta-galactosidase activity	0.24	1	0.27700832	26	0.075085916
3896	GO:0005544	calcium-dependent phospholipid binding	0.24	1	0.27700832	26	0.075085916
5763	GO:0008233	peptidase activity	0.24	8	2.2160666	565	1.6316746
2982	GO:0004197	cysteine-type endopeptidase activity	0.24	2	0.55401665	90	0.2599128
9869	GO:0016829	lyase activity	0.25	7	1.9390582	488	1.4093049
13144	GO:0030674	protein binding, bridging	0.25	1	0.27700832	28	0.080861755
13634	GO:0031177	phosphopantetheine binding	0.25	1	0.27700832	28	0.080861755
27064	GO:0060090	binding, bridging	0.25	1	0.27700832	28	0.080861755
3472	GO:0004866	endopeptidase inhibitor activity	0.26	2	0.55401665	95	0.27435237
8159	GO:0010951	negative regulation of endopeptidase activity	0.26	2	0.55401665	95	0.27435237
26712	GO:0052548	regulation of endopeptidase activity	0.26	2	0.55401665	95	0.27435237
28101	GO:0061135	endopeptidase regulator activity	0.26	2	0.55401665	95	0.27435237
19684	GO:0043412	macromolecule modification	0.26	34	9.4182825	2900	8.374968
12805	GO:0030246	carbohydrate binding	0.27	4	1.1080333	251	0.7248679
2774	GO:0003950	NAD+ ADP-ribosyltransferase activity	0.27	1	0.27700832	30	0.086637594
6216	GO:0008810	cellulase activity	0.27	1	0.27700832	30	0.086637594
5705	GO:0008152	metabolic process	0.27	188	52.07756	17432	50.34222
13829	GO:0031406	carboxylic acid binding	0.27	2	0.55401665	98	0.28301615
19590	GO:0043295	glutathione binding	0.28	1	0.27700832	31	0.08952551
8967	GO:0015698	inorganic anion transport	0.28	3	0.83102494	176	0.5082739
3904	GO:0005576	extracellular region	0.28	3	0.83102494	178	0.5140497
13082	GO:0030599	pectinesterase activity	0.28	3	0.83102494	178	0.5140497
22409	GO:0046906	tetrapyrrole binding	0.28	8	2.2160666	596	1.7212002
3265	GO:0004630	phospholipase D activity	0.29	1	0.27700832	32	0.09241343
20517	GO:0044267	cellular protein metabolic process	0.29	37	10.249308	3225	9.313541
19253	GO:0042936	dipeptide transporter activity	0.30	2	0.55401665	105	0.3032316
19255	GO:0042938	dipeptide transport	0.30	2	0.55401665	105	0.3032316
3749	GO:0005249	voltage-gated potassium channel activity	0.30	1	0.27700832	34	0.09818927
5195	GO:0007165 GO:0023033	signal transduction	0.30	12	3.3240998	961	2.775291
12602	GO:0023052 GO:0023046	signaling	0.30	12	3.3240998	961	2.775291
9480	GO:0016289	CoA hydrolase activity	0.31	1	0.27700832	35	0.10107719
21146	GO:0045544	gibberellin 20-oxidase activity	0.31	1	0.27700832	35	0.10107719
22049	GO:0046527	glucosyltransferase activity	0.31	4	1.1080333	270	0.77973837
19393	GO:0043086	negative regulation of catalytic activity	0.31	3	0.83102494	188	0.54292893
20342	GO:0044092	negative regulation of molecular function	0.31	3	0.83102494	188	0.54292893
3804	GO:0005345	purine base transmembrane transporter	0.31	1	0.27700832	36	0.10396511
4949	GO:0006863 GO:0015852	purine base transport	0.31	1	0.27700832	36	0.10396511
8739	GO:0015385 GO:0015502	sodium:hydrogen antiporter activity	0.31	1	0.27700832	36	0.10396511
9185	GO:0015925	galactosidase activity	0.31	1	0.27700832	36	0.10396511
3304	GO:0004672 GO:0050222	protein kinase activity	0.32	16	4.432133	1333	3.8495972
24968	GO:0050662	coenzyme binding	0.32	3	0.83102494	191	0.5515927
3318	GO:0004693 GO:0016537	cyclin-dependent protein kinase activity	0.32	1	0.27700832	37	0.10685303
3758	GO:0005267	potassium channel activity	0.32	1	0.27700832	37	0.10685303
8934	GO:0015662	ATPase activity, coupled to transmembrane transport	0.32	1	0.27700832	37	0.10685303
29918	GO:0071554	cell wall organization or biogenesis	0.33	2	0.55401665	112	0.32344702
12538	GO:0022843	voltage-gated cation channel activity	0.33	1	0.27700832	38	0.10974095
25626	GO:0051336	regulation of hydrolase activity	0.34	3	0.83102494	196	0.5660323



8613	GO:0015205 GO:0015392	nucleobase transmembrane transp	0.34	1	0.27700832	40	0.1155168
9116	GO:0015851	nucleobase transport	0.34	1	0.27700832	40	0.1155168
8584	GO:0015171 GO:0015359	amino acid transmembrane transp	0.35	2	0.55401665	118	0.34077454
2521	GO:0003333	amino acid transmembrane transp	0.35	2	0.55401665	118	0.34077454
20627	GO:0044433	cytoplasmic vesicle part	0.35	1	0.27700832	41	0.118404716
30069	GO:0071705	nitrogen compound transport	0.35	3	0.83102494	202	0.5833598
12659	GO:0030076	light-harvesting complex	0.36	1	0.27700832	42	0.121292636
13833	GO:0031410	cytoplasmic vesicle	0.36	1	0.27700832	43	0.124180555
14393	GO:0031982	vesicle	0.36	1	0.27700832	43	0.124180555
4951	GO:0006865 GO:0006866	amino acid transport	0.37	2	0.55401665	123	0.35521415
9753	GO:0016682	oxidoreductase activity, acting on c	0.37	1	0.27700832	44	0.12706847
409	GO:0000502	proteasome complex	0.37	1	0.27700832	44	0.12706847
5692	GO:0008134	transcription factor binding	0.38	1	0.27700832	45	0.1299564
8666	GO:0015276	ligand-gated ion channel activity	0.38	1	0.27700832	45	0.1299564
11780	GO:0019829	cation-transporting ATPase activity	0.38	1	0.27700832	45	0.1299564
12530	GO:0022834	ligand-gated channel activity	0.38	1	0.27700832	45	0.1299564
18956	GO:0042626	ATPase activity, coupled to transm	0.38	3	0.83102494	211	0.6093511
3761	GO:0005275 GO:0005279	amine transmembrane transporter	0.38	2	0.55401665	126	0.3638779
9861	GO:0016820	hydrolase activity, acting on acid a	0.38	3	0.83102494	212	0.612239
11776	GO:0019825	oxygen binding	0.38	5	1.3850416	389	1.1234008
8495	GO:0015077	monovalent inorganic cation transp	0.39	3	0.83102494	214	0.6180149
9913	GO:0016881	acid-amino acid ligase activity	0.39	5	1.3850416	391	1.1291766
4188	GO:0005938	cell cortex	0.40	1	0.27700832	48	0.13862015
14591	GO:0032183	SUMO binding	0.40	1	0.27700832	48	0.13862015
20642	GO:0044448	cell cortex part	0.40	1	0.27700832	48	0.13862015
113	GO:0000145	exocyst	0.40	1	0.27700832	48	0.13862015
17617	GO:0035251	UDP-glucosyltransferase activity	0.40	3	0.83102494	218	0.62956655
3756	GO:0005261 GO:0015281	cation channel activity	0.40	1	0.27700832	49	0.14150807
3844	GO:0005451	monovalent cation:hydrogen antip	0.40	1	0.27700832	49	0.14150807
31421	GO:0080044	quercetin 7-O-glucosyltransferase	0.40	1	0.27700832	49	0.14150807
12533	GO:0022838	substrate-specific channel activity	0.41	3	0.83102494	221	0.63823026
9845	GO:0016798	hydrolase activity, acting on glycos	0.41	5	1.3850416	401	1.1580559
5096	GO:0007047	cellular cell wall organization	0.41	1	0.27700832	50	0.14439599
6932	GO:0009664	plant-type cell wall organization	0.41	1	0.27700832	50	0.14439599
9783	GO:0016722	oxidoreductase activity, oxidizing n	0.41	1	0.27700832	50	0.14439599
20857	GO:0045229	external encapsulating structure or	0.41	1	0.27700832	50	0.14439599
30033	GO:0071669	plant-type cell wall organization or	0.41	1	0.27700832	50	0.14439599
30886	GO:0072530	purine-containing compound transp	0.41	1	0.27700832	50	0.14439599
9103	GO:0015837	amine transport	0.41	2	0.55401665	135	0.38986918
8908	GO:0015629	actin cytoskeleton	0.41	1	0.27700832	51	0.14728391
9975	GO:0016998	cell wall macromolecule catabolic p	0.41	1	0.27700832	51	0.14728391
4897	GO:0006793	phosphorus metabolic process	0.41	32	8.864266	2925	8.4471655
4900	GO:0006796	phosphate metabolic process	0.41	32	8.864266	2925	8.4471655
5704	GO:0008150 GO:0000004	biological process	0.42	234	64.81995	22215	64.155136
8660	GO:0015267 GO:0015249	channel activity	0.42	3	0.83102494	226	0.6526699
12515	GO:0022803	passive transmembrane transport	0.42	3	0.83102494	226	0.6526699
5097	GO:0007049	cell cycle	0.42	1	0.27700832	52	0.15017183
20287	GO:0044036	cell wall macromolecule metabolic	0.42	1	0.27700832	52	0.15017183
9812	GO:0016758	transferase activity, transferring he	0.42	6	1.6620499	501	1.4468478
8607	GO:0015197 GO:0015637	peptide transporter activity	0.43	2	0.55401665	139	0.40142086
8608	GO:0015198	oligopeptide transporter activity	0.43	2	0.55401665	139	0.40142086
9750	GO:0016679	oxidoreductase activity, acting on d	0.43	1	0.27700832	53	0.15305975
29246	GO:0070882	cellular cell wall organization or bid	0.43	1	0.27700832	53	0.15305975
3895	GO:0005543	phospholipid binding	0.43	2	0.55401665	140	0.40430877
5732	GO:0008194	UDP-glucosyltransferase activity	0.43	4	1.1080333	322	0.9299102
4944	GO:0006857	oligopeptide transport	0.43	2	0.55401665	141	0.4071967
9099	GO:0015833	peptide transport	0.43	2	0.55401665	141	0.4071967
9600	GO:0016491	oxidoreductase activity	0.44	19	5.263158	1724	4.9787736
3449	GO:0004842 GO:0004840	ubiquitin-protein ligase activity	0.44	4	1.1080333	326	0.94146186
4224	GO:0005984	disaccharide metabolic process	0.44	1	0.27700832	56	0.16172351
9369	GO:0016137	glycoside metabolic process	0.44	1	0.27700832	56	0.16172351
15576	GO:0033177	proton-transporting two-sector ATP	0.44	1	0.27700832	56	0.16172351
19758	GO:0043492	ATPase activity, coupled to movem	0.44	3	0.83102494	235	0.67866117
26959	GO:0055114	oxidation-reduction process	0.44	27	7.479224	2490	7.1909204
9767	GO:0016705	oxidoreductase activity, acting on p	0.45	4	1.1080333	329	0.95012563
9813	GO:0016759	cellulose synthase activity	0.45	1	0.27700832	57	0.16461143
4913	GO:0006814 GO:0006834	sodium ion transport	0.46	1	0.27700832	58	0.16749935
6665	GO:0009311	oligosaccharide metabolic process	0.46	1	0.27700832	58	0.16749935
8499	GO:0015081 GO:0022816	sodium ion transmembrane transp	0.46	1	0.27700832	58	0.16749935
18086	GO:0035725	sodium ion transmembrane transp	0.46	1	0.27700832	58	0.16749935
29800	GO:0071436	sodium ion export	0.46	1	0.27700832	58	0.16749935
29919	GO:0071555	cell wall organization	0.46	1	0.27700832	58	0.16749935
9654	GO:0016567	protein ubiquitination	0.46	4	1.1080333	332	0.9587894
14854	GO:0032446	protein modification by small protei	0.46	4	1.1080333	332	0.9587894
29011	GO:0070647	protein modification by small protei	0.46	4	1.1080333	332	0.9587894
2831	GO:0004022	alcohol dehydrogenase (NAD) activi	0.46	1	0.27700832	59	0.17038727
5652	GO:0008081 GO:0004434	phosphoric diester hydrolase activi	0.47	1	0.27700832	60	0.17327519
5981	GO:0008509	anion transmembrane transporter a	0.47	3	0.83102494	245	0.70754033
11747	GO:0019787 GO:0008639	small conjugating protein ligase ac	0.47	4	1.1080333	339	0.9790048
2818	GO:0004003	ATP-dependent DNA helicase activi	0.47	1	0.27700832	61	0.1761631
4917	GO:0006820 GO:0006822	anion transport	0.48	3	0.83102494	247	0.7133162
6424	GO:0009055 GO:0009053	electron carrier activity	0.48	2	0.55401665	154	0.44473964
9824	GO:0016773	phosphotransferase activity, alcoho	0.49	16	4.432133	1493	4.311664
9838	GO:0016790	thiolester hydrolase activity	0.49	1	0.27700832	65	0.18771479
2629	GO:0003678 GO:0003679	DNA helicase activity	0.50	1	0.27700832	67	0.19349062
5764	GO:0008234 GO:0004220	cysteine-type peptidase activity	0.51	2	0.55401665	163	0.47073093
8749	GO:0015399	primary active transmembrane tran	0.51	3	0.83102494	260	0.75085914
8753	GO:0015405	P-P-bond-hydrolysis-driven transm	0.51	3	0.83102494	260	0.75085914
31420	GO:0080043	quercetin 3-O-glucosyltransferase	0.52	1	0.27700832	69	0.19926646
9911	GO:0016879	ligase activity, forming carbon-nitro	0.52	5	1.3850416	456	1.3168914
9191	GO:0015931	nucleobase, nucleoside, nucleotide	0.52	1	0.27700832	70	0.20215438
9192	GO:0015932	nucleobase, nucleoside, nucleotide	0.52	1	0.27700832	70	0.20215438
25998	GO:0051716	cellular response to stimulus	0.52	12	3.3240998	1138	3.2864528
3744	GO:0005244	voltage-gated ion channel activity	0.53	1	0.27700832	72	0.20793022
12528	GO:0022832	voltage-gated channel activity	0.53	1	0.27700832	72	0.20793022
15280	GO:0032879	regulation of localization	0.53	1	0.27700832	72	0.20793022
17141	GO:0034762	regulation of transmembrane trans	0.53	1	0.27700832	72	0.20793022
17144	GO:0034765	regulation of ion transmembrane tr	0.53	1	0.27700832	72	0.20793022



19568	GO:0043269	regulation of ion transport	0.53	1	0.27700832	72	0.20793022
25348	GO:0051049	regulation of transport	0.53	1	0.27700832	72	0.20793022
12573	GO:0022891	substrate-specific transmembrane	0.53	13	3.601108	1241	3.5839086
3311	GO:0004683 GO:0004684	calmodulin-dependent protein kina	0.54	1	0.27700832	74	0.21370606
9817	GO:0016763	transferase activity, transferring pe	0.54	1	0.27700832	74	0.21370606
8810	GO:0015491	cation:cation antiporter activity	0.54	1	0.27700832	75	0.21659398
9488	GO:0016301	kinase activity	0.55	18	4.98615	1740	5.0249805
5663	GO:0008094 GO:0004011	DNA-dependent ATPase activity	0.55	1	0.27700832	76	0.2194819
8943	GO:0015672	monovalent inorganic cation transp	0.57	4	1.1080333	383	1.1060733
3787	GO:0005319	lipid transporter activity	0.58	1	0.27700832	83	0.23969735
12547	GO:0022857 GO:0005386	transmembrane transporter activity	0.58	15	4.1551247	1483	4.282785
3048	GO:0004364	glutathione transferase activity	0.59	1	0.27700832	84	0.24258527
4643	GO:0006511	ubiquitin-dependent protein catabo	0.59	1	0.27700832	84	0.24258527
4912	GO:0006813 GO:0015458	potassium ion transport	0.59	1	0.27700832	84	0.24258527
11864	GO:0019941	modification-dependent protein cat	0.59	1	0.27700832	84	0.24258527
19989	GO:0043632	modification-dependent macromole	0.59	1	0.27700832	84	0.24258527
20507	GO:0044257	cellular protein catabolic process	0.59	1	0.27700832	84	0.24258527
25887	GO:0051603	proteolysis involved in cellular prot	0.59	1	0.27700832	84	0.24258527
30168	GO:0071804	cellular potassium ion transport	0.59	1	0.27700832	84	0.24258527
30169	GO:0071805	potassium ion transmembrane tran	0.59	1	0.27700832	84	0.24258527
3716	GO:0005198	structural molecule activity	0.59	4	1.1080333	393	1.1349525
4916	GO:0006818	hydrogen transport	0.59	3	0.83102494	292	0.84327257
9246	GO:0015992	proton transport	0.59	3	0.83102494	292	0.84327257
25195	GO:0050896 GO:0051869	response to stimulus	0.59	19	5.263158	1881	5.432177
12734	GO:0030163	protein catabolic process	0.59	1	0.27700832	86	0.24836111
20515	GO:0044265 GO:0034962	cellular macromolecule catabolic p	0.59	1	0.27700832	86	0.24836111
20624	GO:0044430	cytoskeletal part	0.60	1	0.27700832	88	0.25413695
14590	GO:0032182	small conjugating protein binding	0.61	1	0.27700832	90	0.2599128
3644	GO:0005102	receptor binding	0.62	1	0.27700832	91	0.2628007
18633	GO:0042277	peptide binding	0.63	1	0.27700832	95	0.27435237
3200	GO:0004553 GO:0016800	hydrolase activity, hydrolyzing O-g	0.63	3	0.83102494	312	0.90103096
9811	GO:0016757 GO:0016932	transferase activity, transferring gly	0.64	7	1.9390582	729	2.1052935
4954	GO:0006869	lipid transport	0.64	2	0.55401665	208	0.6006873
8085	GO:0010876	lipid localization	0.64	2	0.55401665	208	0.6006873
16603	GO:0034220	ion transmembrane transport	0.64	8	2.2160666	833	2.4056373
8681	GO:0015299	solute:hydrogen antiporter activity	0.64	1	0.27700832	98	0.28301615
30066	GO:0071702	organic substance transport	0.65	5	1.3850416	529	1.5277096
16430	GO:0034046	poly(G) RNA binding	0.65	1	0.27700832	100	0.28879198
26931	GO:00055085	transmembrane transport	0.65	15	4.1551247	1548	4.4705
4408	GO:0006200	ATP catabolic process	0.66	6	1.6620499	641	1.8511566
9918	GO:0016887 GO:0004002	ATPase activity	0.66	6	1.6620499	641	1.8511566
21600	GO:0046034	ATP metabolic process	0.66	6	1.6620499	641	1.8511566
26845	GO:0052689	carboxylic ester hydrolase activity	0.66	5	1.3850416	538	1.5537009
23515	GO:0048037	cofactor binding	0.66	3	0.83102494	327	0.94434977
9579	GO:0016462	pyrophosphatase activity	0.67	9	2.493075	954	2.7550755
12574	GO:0022892	substrate-specific transporter activ	0.67	14	3.8781164	1463	4.2250266
9859	GO:0016818	hydrolase activity, acting on acid a	0.67	9	2.493075	956	2.7608514
2668	GO:0003779	actin binding	0.67	1	0.27700832	105	0.3032316
9858	GO:0016817	hydrolase activity, acting on acid a	0.67	9	2.493075	959	2.769515
6426	GO:0009057 GO:0043285	macromolecule catabolic process	0.67	1	0.27700832	106	0.3061195
12572	GO:0022890 GO:0015082	inorganic cation transmembrane tr	0.67	3	0.83102494	332	0.9587894
3942	GO:0005618	cell wall	0.67	1	0.27700832	107	0.30900744
12868	GO:0030312	external encapsulating structure	0.69	1	0.27700832	111	0.3205591
8680	GO:0015298	solute:cation antiporter activity	0.69	1	0.27700832	112	0.32344702
29081	GO:0070717	poly-purine tract binding	0.69	1	0.27700832	112	0.32344702
6796	GO:0009507	chloroplast	0.69	2	0.55401665	229	0.6613336
9933	GO:0016903	oxidoreductase activity, acting on t	0.69	1	0.27700832	113	0.32633495
4405	GO:0006195	purine nucleotide catabolic process	0.70	7	1.9390582	773	2.232362
6508	GO:0009143	nucleoside triphosphate catabolic p	0.70	7	1.9390582	773	2.232362
6509	GO:0009144	purine nucleoside triphosphate me	0.70	7	1.9390582	773	2.232362
6511	GO:0009146	purine nucleoside triphosphate cat	0.70	7	1.9390582	773	2.232362
6519	GO:0009154	purine ribonucleotide catabolic pro	0.70	7	1.9390582	773	2.232362
6530	GO:0009166	nucleotide catabolic process	0.70	7	1.9390582	773	2.232362
6567	GO:0009203	ribonucleoside triphosphate catabo	0.70	7	1.9390582	773	2.232362
6569	GO:0009205	purine ribonucleoside triphosphate	0.70	7	1.9390582	773	2.232362
6571	GO:0009207	purine ribonucleoside triphosphate	0.70	7	1.9390582	773	2.232362
6624	GO:0009261	ribonucleotide catabolic process	0.70	7	1.9390582	773	2.232362
17034	GO:0034655	nucleobase, nucleoside, nucleotide	0.70	7	1.9390582	773	2.232362
17035	GO:0034656	nucleobase, nucleoside and nucle	0.70	7	1.9390582	773	2.232362
22209	GO:0046700	heterocycle catabolic process	0.70	7	1.9390582	773	2.232362
30879	GO:0072523	purine-containing compound catab	0.70	7	1.9390582	773	2.232362
10058	GO:0017111	nucleoside-triphosphatase activity	0.70	8	2.2160666	878	2.5355935
20520	GO:0044270	cellular nitrogen compound catabo	0.70	7	1.9390582	777	2.2439137
4215	GO:0005975	carbohydrate metabolic process	0.71	9	2.493075	990	2.8590407
20498	GO:0044248	cellular catabolic process	0.72	8	2.2160666	894	2.5818002
6563	GO:0009199	ribonucleoside triphosphate metab	0.72	7	1.9390582	790	2.2814567
6515	GO:0009150	purine ribonucleotide metabolic pro	0.72	7	1.9390582	791	2.2843447
9823	GO:0016772	transferase activity, transferring ph	0.72	18	4.98615	1932	5.579461
12532	GO:0022836	gated channel activity	0.72	1	0.27700832	122	0.3523262
3260	GO:0004620	phospholipase activity	0.73	1	0.27700832	123	0.35521415
6506	GO:0009141	nucleoside triphosphate metabolic	0.73	7	1.9390582	796	2.2987843
2660	GO:0003735 GO:0003736	structural constituent of ribosome	0.73	2	0.55401665	246	0.7104283
6824	GO:0009536	plastid	0.73	2	0.55401665	247	0.7133162
4121	GO:0005856	cytoskeleton	0.73	1	0.27700832	126	0.3638779
9583	GO:0016469	proton-transporting two-sector ATP	0.74	1	0.27700832	127	0.36676583
4373	GO:0006163	purine nucleotide metabolic proces	0.74	7	1.9390582	810	2.339215
6622	GO:0009259 GO:0009121	ribonucleotide metabolic process	0.74	7	1.9390582	812	2.344991
9906	GO:0016874	ligase activity	0.75	5	1.3850416	597	1.7240882
2758	GO:0003924	GTPase activity	0.75	1	0.27700832	132	0.3812054
4394	GO:0006184	GTP catabolic process	0.75	1	0.27700832	132	0.3812054
21605	GO:0046039	GTP metabolic process	0.75	1	0.27700832	132	0.3812054
5809	GO:0008289	lipid binding	0.75	2	0.55401665	258	0.74508333
30306	GO:0071944	cell periphery	0.75	2	0.55401665	259	0.74797124
3242	GO:0004601 GO:0016685	peroxidase activity	0.76	1	0.27700832	135	0.38986918
9754	GO:0016684	oxidoreductase activity, acting on p	0.76	1	0.27700832	135	0.38986918
8494	GO:0015075	ion transmembrane transporter act	0.76	7	1.9390582	827	2.3883097
30877	GO:0072521	purine-containing compound metab	0.76	7	1.9390582	827	2.3883097
19126	GO:0042803	protein homodimerization activity	0.77	2	0.55401665	265	0.7652988

5018	GO:0006950	response to stress	0.77	5	1.3850416	611	1.764519
6425	GO:0009056	catabolic process	0.77	9	2.493075	1051	3.0352037
3724	GO:0005216	ion channel activity	0.77	1	0.27700832	140	0.40430877
9266	GO:0016020	membrane	0.78	35	9.695291	3741	10.803708
19533	GO:0043234	protein complex	0.78	7	1.9390582	848	2.448956
4910	GO:0006811	ion transport	0.78	8	2.2160666	959	2.769515
20532	GO:0044282	small molecule catabolic process	0.79	7	1.9390582	854	2.4662836
12794	GO:0030234	enzyme regulator activity	0.79	3	0.83102494	403	1.1638317
8679	GO:0015297	antiporter activity	0.80	1	0.27700832	152	0.4389638
8682	GO:0015300	solute:solute antiporter activity	0.80	1	0.27700832	152	0.4389638
13656	GO:0031224	intrinsic to membrane	0.80	10	2.7700832	1193	3.4452884
3723	GO:0005215 GO:0005478	transporter activity	0.81	16	4.432133	1844	5.325324
3888	GO:0005529	sugar binding	0.81	1	0.27700832	158	0.45629135
18953	GO:0042623	ATPase activity, coupled	0.81	4	1.1080333	537	1.550813
5840	GO:0008324	cation transmembrane transporter	0.81	4	1.1080333	538	1.5537009
9422	GO:0016209	antioxidant activity	0.82	1	0.27700832	165	0.47650677
12516	GO:0022804	active transmembrane transporter	0.83	6	1.6620499	787	2.2727928
4605	GO:0006457 GO:0007022	protein folding	0.84	1	0.27700832	173	0.49961013
4067	GO:0005783	endoplasmic reticulum	0.84	1	0.27700832	174	0.50249803
4109	GO:0005840 GO:0033279	ribosome	0.84	5	1.3850416	682	1.9695613
4867	GO:0006753	nucleoside phosphate metabolic process	0.84	7	1.9390582	914	2.6395588
6484	GO:0009117	nucleotide metabolic process	0.84	7	1.9390582	914	2.6395588
11787	GO:0019842	vitamin binding	0.84	1	0.27700832	177	0.5111618
4572	GO:0006412 GO:0006416	translation	0.85	1	0.27700832	180	0.5198256
5610	GO:0008026	ATP-dependent helicase activity	0.85	1	0.27700832	183	0.52848935
28401	GO:0070035	purine NTP-dependent helicase activity	0.85	1	0.27700832	183	0.52848935
19125	GO:0042802	identical protein binding	0.85	5	1.3850416	697	2.01288
9486	GO:0016298	lipase activity	0.86	1	0.27700832	185	0.53426516
9818	GO:0016765 GO:0016766	transferase activity, transferring alkyl groups	0.86	1	0.27700832	185	0.53426516
9836	GO:0016787	hydrolase activity	0.86	33	9.141274	3723	10.751725
2657	GO:0003727 GO:0003728	single-stranded RNA binding	0.86	1	0.27700832	188	0.54292893
3068	GO:0004386	helicase activity	0.86	1	0.27700832	189	0.54581684
26932	GO:0005086	nucleobase, nucleoside and nucleotide metabolic process	0.86	7	1.9390582	944	2.7261963
2897	GO:0004091 GO:0004302	carboxylesterase activity	0.87	1	0.27700832	194	0.5602564
25095	GO:0050790	regulation of catalytic activity	0.88	3	0.83102494	480	1.3862015
28366	GO:0065009	regulation of molecular function	0.88	3	0.83102494	484	1.3977532
4909	GO:0006810 GO:0015457	transport	0.89	19	5.263158	2315	6.6855345
25529	GO:0051234	establishment of localization	0.89	19	5.263158	2315	6.6855345
13018	GO:0030529	ribonucleoprotein complex	0.89	5	1.3850416	741	2.1399486
25476	GO:0051179	localization	0.89	19	5.263158	2319	6.697086
21058	GO:0045454 GO:0030503	cell redox homeostasis	0.89	1	0.27700832	211	0.6093511
30204	GO:0071840	cellular component organization or biogenesis	0.89	2	0.55401665	362	1.045427
22376	GO:0046873	metal ion transmembrane transporter activity	0.89	1	0.27700832	213	0.6151269
4558	GO:0006396 GO:0006394	RNA processing	0.90	1	0.27700832	219	0.63245445
12608	GO:0030001	metal ion transport	0.90	2	0.55401665	374	1.080082
22479	GO:0046983	protein dimerization activity	0.91	3	0.83102494	517	1.4930545
13531	GO:0031072	heat shock protein binding	0.91	1	0.27700832	230	0.6642216
11695	GO:0019725	cellular homeostasis	0.91	1	0.27700832	234	0.67577326
15392	GO:0032991	macromolecular complex	0.92	12	3.3240998	1616	4.666878
4911	GO:0006812 GO:0006819	cation transport	0.92	4	1.1080333	662	1.9118029
3877	GO:0005516	calmodulin binding	0.92	1	0.27700832	236	0.6815491
11828	GO:0019899	enzyme binding	0.92	1	0.27700832	237	0.684437
18925	GO:0042592	homeostatic process	0.92	1	0.27700832	238	0.68732494
15436	GO:0033036	macromolecule localization	0.92	2	0.55401665	397	1.1465042
19527	GO:0043228	non-membrane-bounded organelle	0.92	6	1.6620499	923	2.66555
19531	GO:0043232	intracellular non-membrane-bounded organelle	0.92	6	1.6620499	923	2.66555
3885	GO:0005525	GTP binding	0.92	1	0.27700832	245	0.70754033
11032	GO:0019001	guanyl nucleotide binding	0.92	1	0.27700832	245	0.70754033
14967	GO:0032561	guanyl ribonucleotide binding	0.92	1	0.27700832	245	0.70754033
20619	GO:0044425	membrane part	0.92	11	3.0470915	1523	4.398302
20512	GO:0044262 GO:0006092	cellular carbohydrate metabolic process	0.93	1	0.27700832	248	0.7162041
5661	GO:0008092	cytoskeletal protein binding	0.93	1	0.27700832	249	0.719092
9285	GO:0016043	cellular component organization or biogenesis	0.94	1	0.27700832	261	0.7537471
9699	GO:0016616	oxidoreductase activity, acting on iron	0.94	1	0.27700832	266	0.7681867
22007	GO:0046483	heterocycle metabolic process	0.94	7	1.9390582	1094	3.1593843
9267	GO:0016021	integral to membrane	0.94	7	1.9390582	1103	3.1853757
3874	GO:0005509	calcium ion binding	0.95	1	0.27700832	279	0.8057296
18912	GO:0042578	phosphoric ester hydrolase activity	0.95	2	0.55401665	444	1.2822365
30205	GO:0071841	cellular component organization or biogenesis	0.95	1	0.27700832	285	0.8230572
9697	GO:0016614	oxidoreductase activity, acting on carbon	0.95	1	0.27700832	293	0.84616053
28365	GO:0065008	regulation of biological quality	0.96	1	0.27700832	316	0.9125827
4849	GO:0006730 GO:0019753	one-carbon metabolic process	0.97	1	0.27700832	325	0.93857396
25098	GO:0050794 GO:0051244	regulation of cellular process	0.97	31	8.587257	3987	11.514136
20638	GO:0044444	cytoplasmic part	0.98	10	2.7700832	1644	4.7477403
25094	GO:0050789 GO:0050791	regulation of biological process	0.98	33	9.141274	4315	12.461374
9795	GO:0016740	transferase activity	0.98	28	7.7562327	3764	10.870131
9839	GO:0016791 GO:0016302	phosphatase activity	0.98	1	0.27700832	383	1.1060733
28364	GO:0065007	biological regulation	0.98	33	9.141274	4376	12.637537
4755	GO:0006629	lipid metabolic process	0.99	2	0.55401665	590	1.7038727
8673	GO:0015291 GO:0015290	secondary active transmembrane transporter activity	0.99	1	0.27700832	407	1.1753833
2674	GO:0003824	catalytic activity	0.99	93	25.761772	10750	31.045137
9494	GO:0016311	dephosphorylation	0.99	1	0.27700832	425	1.227366
9837	GO:0016788	hydrolase activity, acting on ester bonds	0.99	8	2.2160666	1534	4.430069
4530	GO:0006355 GO:0032583	regulation of transcription, DNA-dependent	0.99	16	4.432133	2591	7.4826
25544	GO:0051252	regulation of RNA metabolic process	0.99	16	4.432133	2593	7.488376
4526	GO:0006351 GO:0006350	transcription, DNA-dependent	0.99	8	2.2160666	1575	4.548474
15176	GO:0032774	RNA biosynthetic process	0.99	8	2.2160666	1575	4.548474
7141	GO:0009889	regulation of biosynthetic process	0.99	16	4.432133	2605	7.523031
7772	GO:0010556	regulation of macromolecule biosynthesis	0.99	16	4.432133	2605	7.523031
13756	GO:0031326	regulation of cellular biosynthetic process	0.99	16	4.432133	2605	7.523031
32213	GO:2000112	regulation of cellular macromolecule biosynthesis	0.99	16	4.432133	2605	7.523031
4027	GO:0005737	cytoplasm	0.99	11	3.0470915	2001	5.7787275
7692	GO:0010468	regulation of gene expression	0.99	16	4.432133	2635	7.6096687
20640	GO:0044446	intracellular organelle part	1.00	2	0.55401665	710	2.0504231
27228	GO:0060255	regulation of macromolecule metabolism	1.00	16	4.432133	2660	7.6818666
20616	GO:0044422	organelle part	1.00	2	0.55401665	712	2.0561988
11221	GO:0019219	regulation of nucleobase, nucleoside, nucleotide and nucleic acid metabolic process	1.00	16	4.432133	2675	7.7251854
25468	GO:0051171	regulation of nitrogen compound metabolic process	1.00	16	4.432133	2675	7.7251854



131	GO:0000166	nucleotide binding	1.00	5	1.3850416	1213	3.5030468
3884	GO:0005524	ATP binding	1.00	1	0.27700832	524	1.51327
2628	GO:0003677	DNA binding	1.00	5	1.3850416	1224	3.534814
31465	GO:0080090	regulation of primary metabolic pro	1.00	16	4.432133	2710	7.826263
3876	GO:0005515 GO:0045308	protein binding	1.00	53	14.68144	6933	20.021948
13041	GO:0030554	adenyl nucleotide binding	1.00	1	0.27700832	550	1.5883559
14965	GO:0032559	adenyl ribonucleotide binding	1.00	1	0.27700832	550	1.5883559
11224	GO:0019222	regulation of metabolic process	1.00	19	5.263158	3115	8.995871
7691	GO:0010467	gene expression	1.00	10	2.7700832	1974	5.7007537
18000	GO:0035639	purine ribonucleoside triphosphate	1.00	2	0.55401665	769	2.2208104
9308	GO:0016070	RNA metabolic process	1.00	9	2.493075	1855	5.3570914
13753	GO:0031323	regulation of cellular metabolic pro	1.00	16	4.432133	2770	7.999538
14959	GO:0032553	ribonucleotide binding	1.00	2	0.55401665	795	2.2958963
14961	GO:0032555	purine ribonucleotide binding	1.00	2	0.55401665	795	2.2958963
10033	GO:0017076	purine nucleotide binding	1.00	2	0.55401665	797	2.3016722
2627	GO:0003676	nucleic acid binding	1.00	13	3.601108	2453	7.0840673
20531	GO:0044281	small molecule metabolic process	1.00	8	2.2160666	1788	5.1636004
3863	GO:0005488	binding	1.00	118	32.68698	13903	40.15075
3903	GO:0005575 GO:0008372	cellular_component	1.00	65	18.00554	8515	24.590637
3946	GO:0005623	cell	1.00	62	17.174515	8227	23.758917
20657	GO:0044464	cell part	1.00	62	17.174515	8227	23.758917
716	GO:0001071	nucleic acid binding transcription fa	1.00	5	1.3850416	1417	4.0921826
2643	GO:0003700 GO:0000130	sequence-specific DNA binding tra	1.00	5	1.3850416	1417	4.0921826
3955	GO:0005634	nucleus	1.00	5	1.3850416	1433	4.138389
19525	GO:0043226	organelle	1.00	15	4.1551247	3013	8.701303
19528	GO:0043229	intracellular organelle	1.00	15	4.1551247	3013	8.701303
2653	GO:0003723	RNA binding	1.00	1	0.27700832	797	2.3016722
19526	GO:0043227	membrane-bounded organelle	1.00	8	2.2160666	2142	6.185924
19530	GO:0043231	intracellular membrane-bounded o	1.00	8	2.2160666	2142	6.185924
20618	GO:0044424	intracellular part	1.00	20	5.5401664	3853	11.127155
3945	GO:0005622	intracellular	1.00	26	7.202216	4751	13.720507
2626	GO:0003674 GO:0005554	molecular_function	1.00	210	58.171745	24394	70.447914

GO ID	GO ACCESSION	GO Term	p-value	Count in Selection	% Count in Selection	Count in Total	% Count in Total
5704	GO:0008150	biological process	0.00	163	79.12621	22215	64.155136
5705	GO:0008152	metabolic process	0.00	135	65.53398	17432	50.34222
9869	GO:0016829	lyase activity	0.00	12	5.8252425	488	1.4093049
11776	GO:0019825	oxygen binding	0.00	10	4.854369	389	1.1234008
16391	GO:0034007	S-linalool synthase activity	0.00	2	0.9708738	4	0.011551679
9600	GO:0016491	oxidoreductase activity	0.00	22	10.679611	1724	4.9787736
26959	GO:0055114	oxidation-reduction process	0.00	28	13.592233	2490	7.1909204
9832	GO:0016782	transferase activity, transferring sulfur-containing g	0.00	4	1.9417475	74	0.21370606
9877	GO:0016838	carbon-oxygen lyase activity, acting on phosphates	0.00	4	1.9417475	77	0.22236982
2864	GO:0004058	aromatic-L-amino-acid decarboxylase activity	0.00	2	0.9708738	9	0.025991278
26845	GO:0052689	carboxylic ester hydrolase activity	0.00	10	4.854369	538	1.5537009
21148	GO:0045547	dehydrodolichyl diphosphate synthase activity	0.00	2	0.9708738	10	0.0288792
716	GO:0001071	nucleic acid binding transcription factor activity	0.00	18	8.7378645	1417	4.0921826
2643	GO:0003700	sequence-specific DNA binding transcription factor	0.00	18	8.7378645	1417	4.0921826
9870	GO:0016830	carbon-carbon lyase activity	0.00	5	2.4271846	161	0.4649551
29787	GO:0071423	malate transmembrane transport	0.00	2	0.9708738	14	0.040430877
9012	GO:0015743	malate transport	0.00	2	0.9708738	14	0.040430877
8553	GO:0015140	malate transmembrane transporter activity	0.00	2	0.9708738	14	0.040430877
9009	GO:0015740	C4-dicarboxylate transport	0.00	2	0.9708738	14	0.040430877
8859	GO:0015556	C4-dicarboxylate transmembrane transporter activi	0.00	2	0.9708738	14	0.040430877
9767	GO:0016705	oxidoreductase activity, acting on paired donors, wi	0.00	7	3.3980582	329	0.95012563
3382	GO:0004768	stearoyl-CoA 9-desaturase activity	0.00	2	0.9708738	16	0.046206716
4928	GO:0006835	dicarboxylic acid transport	0.00	2	0.9708738	16	0.046206716
7521	GO:0010295	(+)-abscisic acid 8'-hydroxylase activity	0.00	2	0.9708738	16	0.046206716
3782	GO:0005310	dicarboxylic acid transmembrane transporter activi	0.00	2	0.9708738	16	0.046206716
9427	GO:0016215	CoA desaturase activity	0.00	2	0.9708738	16	0.046206716
5702	GO:0008146	sulfotransferase activity	0.00	3	1.4563106	54	0.15594767
2674	GO:0003824	catalytic activity	0.00	82	39.805824	10750	31.045137
9871	GO:0016831	carboxy-lyase activity	0.01	4	1.9417475	115	0.3321108
8526	GO:0015112	nitrate transmembrane transporter activity	0.01	3	1.4563106	61	0.1761631
8975	GO:0015706	nitrate transport	0.01	3	1.4563106	61	0.1761631
11931	GO:0020037	heme binding	0.01	9	4.3689322	550	1.5883559
3124	GO:0004462	lactoylglutathione lyase activity	0.01	2	0.9708738	20	0.0577584
15176	GO:0032774	RNA biosynthetic process	0.01	18	8.7378645	1575	4.548474
4526	GO:0006351	transcription, DNA-dependent	0.01	18	8.7378645	1575	4.548474
3129	GO:0004467	long-chain fatty acid-CoA ligase activity	0.01	2	0.9708738	21	0.060646318
3872	GO:0005506	iron ion binding	0.01	9	4.3689322	563	1.6258988
9771	GO:0016709	oxidoreductase activity, acting on paired donors, wi	0.01	3	1.4563106	71	0.2050423
9779	GO:0016717	oxidoreductase activity, acting on paired donors, wi	0.01	2	0.9708738	24	0.06931008
31493	GO:0080118	brassinosteroid sulfotransferase activity	0.01	2	0.9708738	25	0.072197996
21145	GO:0045543	gibberellin 2-beta-dioxygenase activity	0.01	2	0.9708738	25	0.072197996
22409	GO:0046906	tetrapyrrole binding	0.01	9	4.3689322	596	1.7212002
9800	GO:0016746	transferase activity, transferring acyl groups	0.01	8	3.883495	498	1.438184
8919	GO:0015645	fatty acid ligase activity	0.01	2	0.9708738	27	0.077973835
3113	GO:0004451	isocitrate lyase activity	0.01	1	0.4854369	2	0.00577584
21946	GO:0046421	methylisocitrate lyase activity	0.01	1	0.4854369	2	0.00577584
22988	GO:0047501	(+)-neomenthol dehydrogenase activity	0.01	1	0.4854369	2	0.00577584
22991	GO:0047504	(-)-menthol dehydrogenase activity	0.01	1	0.4854369	2	0.00577584
8517	GO:0015103	inorganic anion transmembrane transporter activity	0.01	4	1.9417475	154	0.44473964
2870	GO:0004064	arylesterase activity	0.01	2	0.9708738	30	0.086637594
8683	GO:0015301	anion:anion antiporter activity	0.01	2	0.9708738	30	0.086637594
5981	GO:0008509	anion transmembrane transporter activity	0.02	5	2.4271846	245	0.70754033
4917	GO:0006820	anion transport	0.02	5	2.4271846	247	0.7133162
4319	GO:0006081	cellular aldehyde metabolic process	0.02	1	0.4854369	3	0.00866376
4330	GO:0006097	glyoxylate cycle	0.02	1	0.4854369	3	0.00866376
22011	GO:0046487	glyoxylate metabolic process	0.02	1	0.4854369	3	0.00866376
3134	GO:0004474	malate synthase activity	0.02	1	0.4854369	3	0.00866376
8159	GO:0010951	negative regulation of endopeptidase activity	0.02	3	1.4563106	95	0.27435237
26712	GO:0052548	regulation of endopeptidase activity	0.02	3	1.4563106	95	0.27435237
28101	GO:0061135	endopeptidase regulator activity	0.02	3	1.4563106	95	0.27435237
3472	GO:0004866	endopeptidase inhibitor activity	0.02	3	1.4563106	95	0.27435237
3156	GO:0004497	monoxygenase activity	0.02	4	1.9417475	172	0.49672222
9801	GO:0016747	transferase activity, transferring acyl groups other t	0.02	7	3.3980582	456	1.3168914
8967	GO:0015698	inorganic anion transport	0.02	4	1.9417475	176	0.5082739
5729	GO:0008191	metalloendopeptidase inhibitor activity	0.02	1	0.4854369	4	0.011551679
7157	GO:0009905	ent-copalyl diphosphate synthase activity	0.02	1	0.4854369	4	0.011551679
7792	GO:0010576	metalloenzyme regulator activity	0.02	1	0.4854369	4	0.011551679
9905	GO:0016872	intramolecular lyase activity	0.02	1	0.4854369	4	0.011551679
23942	GO:0048551	metalloenzyme inhibitor activity	0.02	1	0.4854369	4	0.011551679
24433	GO:0050113	inositol oxygenase activity	0.02	1	0.4854369	4	0.011551679
3661	GO:0005125	cytokine activity	0.02	1	0.4854369	4	0.011551679
3674	GO:0005138	interleukin-6 receptor binding	0.02	1	0.4854369	4	0.011551679
4320	GO:0006082	organic acid metabolic process	0.02	6	2.9126213	369	1.0656425
11716	GO:0019752	carboxylic acid metabolic process	0.02	6	2.9126213	369	1.0656425
19707	GO:0043436	oxoacid metabolic process	0.02	6	2.9126213	369	1.0656425
18541	GO:0042180	cellular ketone metabolic process	0.03	6	2.9126213	375	1.0829699
7690	GO:0010466	negative regulation of peptidase activity	0.03	3	1.4563106	110	0.31767118
12946	GO:0030414	peptidase inhibitor activity	0.03	3	1.4563106	110	0.31767118
25636	GO:0051346	negative regulation of hydrolase activity	0.03	3	1.4563106	110	0.31767118
9308	GO:0016070	RNA metabolic process	0.03	18	8.7378645	1855	5.3570914
2897	GO:0004091	carboxylesterase activity	0.03	4	1.9417475	194	0.5602564
3229	GO:0004586	ornithine decarboxylase activity	0.03	1	0.4854369	5	0.0144396
26711	GO:0052547	regulation of peptidase activity	0.03	3	1.4563106	112	0.32344702
28100	GO:0061134	peptidase regulator activity	0.03	3	1.4563106	112	0.32344702
11224	GO:0019222	regulation of metabolic process	0.03	27	13.106796	3115	8.995871
9874	GO:0016835	carbon-oxygen lyase activity	0.03	4	1.9417475	202	0.5833598



26059	GO:0051777	ent-kaurenoate oxidase activity	0.04	1	0.4854369	6	0.01732752
4530	GO:0006355	GO:regulation of transcription, DNA-dependent	0.04	23	11.165049	2591	7.4826
25544	GO:0051252	regulation of RNA metabolic process	0.04	23	11.165049	2593	7.488376
6884	GO:0009607	response to biotic stimulus	0.04	3	1.4563106	122	0.3523262
3293	GO:0004659	prenyltransferase activity	0.04	2	0.9708738	51	0.14728391
7141	GO:0009889	regulation of biosynthetic process	0.04	23	11.165049	2605	7.523031
7772	GO:0010556	regulation of macromolecule biosynthetic process	0.04	23	11.165049	2605	7.523031
13756	GO:0031326	regulation of cellular biosynthetic process	0.04	23	11.165049	2605	7.523031
32213	GO:2000112	regulation of cellular macromolecule biosynthetic pr	0.04	23	11.165049	2605	7.523031
2626	GO:0003674	GO:molecular_function	0.04	157	76.21359	24394	70.447914
16115	GO:0033729	anthocyanidin reductase activity	0.04	1	0.4854369	7	0.020215439
7692	GO:0010468	regulation of gene expression	0.04	23	11.165049	2635	7.6096687
9883	GO:0016846	carbon-sulfur lyase activity	0.04	2	0.9708738	56	0.16172351
6427	GO:0009058	biosynthetic process	0.04	24	11.650485	2796	8.074624
7557	GO:0010333	terpene synthase activity	0.05	2	0.9708738	57	0.16461143
27228	GO:0060255	regulation of macromolecule metabolic process	0.05	23	11.165049	2660	7.6818666
8725	GO:0015367	oxoglutarate:malate antiporter activity	0.05	1	0.4854369	8	0.023103358
9011	GO:0015742	alpha-ketoglutarate transport	0.05	1	0.4854369	8	0.023103358
11196	GO:0019187	beta-1,4-mannosyltransferase activity	0.05	1	0.4854369	8	0.023103358
26035	GO:0051753	mannan synthase activity	0.05	1	0.4854369	8	0.023103358
9754	GO:0016684	oxidoreductase activity, acting on peroxide as acce	0.05	3	1.4563106	135	0.38986918
3242	GO:0004601	GO:peroxidase activity	0.05	3	1.4563106	135	0.38986918
11221	GO:0019219	regulation of nucleobase, nucleoside, nucleotide an	0.05	23	11.165049	2675	7.7251854
25468	GO:0051171	regulation of nitrogen compound metabolic process	0.05	23	11.165049	2675	7.7251854
7691	GO:0010467	gene expression	0.05	18	8.7378645	1974	5.7007537
7506	GO:0010279	indole-3-acetic acid amido synthetase activity	0.05	1	0.4854369	9	0.025991278
8661	GO:0015269	calcium-activated potassium channel activity	0.05	1	0.4854369	9	0.025991278
12534	GO:0022839	ion gated channel activity	0.05	1	0.4854369	9	0.025991278
2823	GO:0004014	adenosylmethionine decarboxylase activity	0.05	1	0.4854369	9	0.025991278
3734	GO:0005227	calcium activated cation channel activity	0.05	1	0.4854369	9	0.025991278
17024	GO:0034645	GO:cellular macromolecule biosynthetic process	0.05	18	8.7378645	1999	5.7729516
6428	GO:0009059	GO:macromolecule biosynthetic process	0.05	18	8.7378645	2003	5.7845035
31465	GO:0080090	regulation of primary metabolic process	0.05	23	11.165049	2710	7.826263
9710	GO:0016628	oxidoreductase activity, acting on the CH-CH group	0.06	2	0.9708738	65	0.18771479
4878	GO:0006772	thiamine metabolic process	0.06	1	0.4854369	10	0.0288792
6592	GO:0009228	thiamine biosynthetic process	0.06	1	0.4854369	10	0.0288792
23116	GO:0047631	ADP-ribose diphosphatase activity	0.06	1	0.4854369	10	0.0288792
29215	GO:0070851	growth factor receptor binding	0.06	1	0.4854369	10	0.0288792
3056	GO:0004372	glycine hydroxymethyltransferase activity	0.06	1	0.4854369	10	0.0288792
3403	GO:0004792	thiosulfate sulfurtransferase activity	0.06	1	0.4854369	10	0.0288792
3473	GO:0004867	serine-type endopeptidase inhibitor activity	0.06	2	0.9708738	66	0.1906027
9849	GO:0016803	ether hydrolase activity	0.06	1	0.4854369	11	0.03176712
2989	GO:0004301	epoxide hydrolase activity	0.06	1	0.4854369	11	0.03176712
4755	GO:0006629	lipid metabolic process	0.06	7	3.3980582	590	1.7038727
13753	GO:0031323	regulation of cellular metabolic process	0.07	23	11.165049	2770	7.999538
3464	GO:0004857	enzyme inhibitor activity	0.07	3	1.4563106	157	0.4534034
3888	GO:0005529	sugar binding	0.07	3	1.4563106	158	0.45629135
9764	GO:0016701	oxidoreductase activity, acting on single donors wit	0.07	2	0.9708738	72	0.20793022
7526	GO:0010301	GO:xanthoxin dehydrogenase activity	0.07	1	0.4854369	12	0.03465504
19047	GO:0042723	thiamine-containing compound metabolic process	0.07	1	0.4854369	12	0.03465504
19048	GO:0042724	thiamine-containing compound biosynthetic process	0.07	1	0.4854369	12	0.03465504
7551	GO:0010327	acetyl CoA:(Z)-3-hexen-1-ol acetyltransferase activ	0.07	1	0.4854369	13	0.037542958
2896	GO:0004090	carbonyl reductase (NADPH) activity	0.07	1	0.4854369	13	0.037542958
9422	GO:0016209	antioxidant activity	0.08	3	1.4563106	165	0.47650677
25094	GO:0050789	GO:regulation of biological process	0.08	33	16.019417	4315	12.461374
9909	GO:0016877	ligase activity, forming carbon-sulfur bonds	0.08	2	0.9708738	78	0.22525774
9847	GO:0016801	hydrolase activity, acting on ether bonds	0.08	1	0.4854369	14	0.040430877
9873	GO:0016833	oxo-acid-lyase activity	0.08	1	0.4854369	14	0.040430877
11157	GO:0019144	ADP-sugar diphosphatase activity	0.08	1	0.4854369	14	0.040430877
31408	GO:0080031	methyl salicylate esterase activity	0.08	1	0.4854369	14	0.040430877
3827	GO:0005372	water transmembrane transporter activity	0.08	2	0.9708738	81	0.23392151
4927	GO:0006833	water transport	0.08	2	0.9708738	81	0.23392151
8652	GO:0015250	water channel activity	0.08	2	0.9708738	81	0.23392151
18429	GO:0042044	fluid transport	0.08	2	0.9708738	81	0.23392151
9340	GO:0016108	tetraterpenoid metabolic process	0.09	1	0.4854369	15	0.043318797
9341	GO:0016109	tetraterpenoid biosynthetic process	0.09	1	0.4854369	15	0.043318797
9348	GO:0016116	carotenoid metabolic process	0.09	1	0.4854369	15	0.043318797
9349	GO:0016117	carotenoid biosynthetic process	0.09	1	0.4854369	15	0.043318797
14101	GO:0031683	G-protein beta/gamma-subunit complex binding	0.09	1	0.4854369	15	0.043318797
2868	GO:0004062	aryl sulfotransferase activity	0.09	1	0.4854369	15	0.043318797
22479	GO:0046983	protein dimerization activity	0.09	6	2.9126213	517	1.4930545
28364	GO:0065007	biological regulation	0.09	33	16.019417	4376	12.637537
5995	GO:0008524	glucose 6-phosphate:phosphate antiporter activity	0.09	1	0.4854369	16	0.046206716
8694	GO:0015315	organophosphate:inorganic phosphate antiporter ac	0.09	1	0.4854369	16	0.046206716
9797	GO:0016742	hydroxymethyl-, formyl- and related transferase act	0.09	1	0.4854369	16	0.046206716
31396	GO:0080019	fatty-acyl-CoA reductase (alcohol-forming) activity	0.09	1	0.4854369	16	0.046206716
219	GO:0000287	magnesium ion binding	0.09	1	0.4854369	16	0.046206716
9697	GO:0016614	oxidoreductase activity, acting on CH-OH group of	0.10	4	1.9417475	293	0.84616053
9486	GO:0016298	lipase activity	0.10	3	1.4563106	185	0.53426516
8662	GO:0015271	outward rectifier potassium channel activity	0.10	1	0.4854369	18	0.051982556
28368	GO:0070001	aspartic-type peptidase activity	0.10	1	0.4854369	18	0.051982556
2981	GO:0004190	aspartic-type endopeptidase activity	0.10	1	0.4854369	18	0.051982556
19393	GO:0043086	negative regulation of catalytic activity	0.10	3	1.4563106	188	0.54292893
20342	GO:0044092	negative regulation of molecular function	0.10	3	1.4563106	188	0.54292893
20499	GO:0044249	cellular biosynthetic process	0.10	21	10.194175	2635	7.6096687
24968	GO:0050662	coenzyme binding	0.11	3	1.4563106	191	0.5515927
25626	GO:0051336	regulation of hydrolase activity	0.11	3	1.4563106	196	0.5660323
9833	GO:0016783	sulfurtransferase activity	0.11	1	0.4854369	20	0.0577584
3628	GO:0005086	ARF guanyl-nucleotide exchange factor activity	0.11	1	0.4854369	20	0.0577584
24858	GO:0050551	myrcene synthase activity	0.12	1	0.4854369	22	0.06353424

9795	GO:0016740	transferase activity	0.13	28	13.592233	3764	10.870131
9709	GO:0016627	oxidoreductase activity, acting on the CH-CH group	0.13	2	0.9708738	104	0.30034366
22414	GO:0046912	transferase activity, transferring acyl groups, acyl g	0.13	1	0.4854369	23	0.06642216
3662	GO:0005126	cytokine receptor binding	0.13	1	0.4854369	23	0.06642216
19253	GO:0042936	dipeptide transporter activity	0.13	2	0.9708738	105	0.3032316
19255	GO:0042938	dipeptide transport	0.13	2	0.9708738	105	0.3032316
23515	GO:0048037	cofactor binding	0.13	4	1.9417475	327	0.94434977
4692	GO:0006563	L-serine metabolic process	0.13	1	0.4854369	24	0.06931008
25578	GO:0051287 GO	NAD binding	0.13	1	0.4854369	24	0.06931008
31407	GO:0080030	methyl indole-3-acetate esterase activity	0.13	1	0.4854369	24	0.06931008
31393	GO:0080016	(-)-E-beta-caryophyllene synthase activity	0.14	1	0.4854369	25	0.072197996
31394	GO:0080017	alpha-humulene synthase activity	0.14	1	0.4854369	25	0.072197996
17147	GO:0034768	(E)-beta-ocimene synthase activity	0.14	1	0.4854369	26	0.075085916
12533	GO:0022838	substrate-specific channel activity	0.15	3	1.4563106	221	0.63823026
25098	GO:0050794 GO	regulation of cellular process	0.15	29	14.07767	3987	11.514136
9346	GO:0016114	terpenoid biosynthetic process	0.15	1	0.4854369	27	0.077973835
9541	GO:0016413	O-acetyltransferase activity	0.15	1	0.4854369	27	0.077973835
9816	GO:0016762	xyloglucan:xyloglucosyl transferase activity	0.15	1	0.4854369	27	0.077973835
8660	GO:0015267 GO	channel activity	0.15	3	1.4563106	226	0.6526699
12515	GO:0022803	passive transmembrane transporter activity	0.15	3	1.4563106	226	0.6526699
3812	GO:0005355 GO	glucose transmembrane transporter activity	0.15	1	0.4854369	28	0.080861755
6438	GO:0009069	serine family amino acid metabolic process	0.15	1	0.4854369	28	0.080861755
9027	GO:0015758	glucose transport	0.15	1	0.4854369	28	0.080861755
24966	GO:0050660	flavin adenine dinucleotide binding	0.16	2	0.9708738	118	0.34077454
31895	GO:0090304	nucleic acid metabolic process	0.16	18	8.7378645	2340	6.7577324
4841	GO:0006721	terpenoid metabolic process	0.16	1	0.4854369	29	0.083749674
7558	GO:0010334	sesquiterpene synthase activity	0.16	1	0.4854369	29	0.083749674
23	GO:0000030	mannosyltransferase activity	0.16	1	0.4854369	30	0.086637594
3877	GO:0005516	calmodulin binding	0.17	3	1.4563106	236	0.6815491
7222	GO:0009975	cyclase activity	0.17	1	0.4854369	31	0.08952551
11202	GO:0019199	transmembrane receptor protein kinase activity	0.18	5	2.4271846	504	1.4555116
6072	GO:0008645	hexose transport	0.18	1	0.4854369	34	0.09818927
8562	GO:0015149	hexose transmembrane transporter activity	0.18	1	0.4854369	34	0.09818927
17794	GO:0035428	hexose transmembrane transport	0.18	1	0.4854369	34	0.09818927
3749	GO:0005249	voltage-gated potassium channel activity	0.18	1	0.4854369	34	0.09818927
6355	GO:0008970	phospholipase A1 activity	0.19	1	0.4854369	35	0.10107719
23199	GO:0047714	galactolipase activity	0.19	1	0.4854369	35	0.10107719
12805	GO:0030246	carbohydrate binding	0.19	3	1.4563106	251	0.7248679
4232	GO:0005992	trehalose biosynthetic process	0.19	1	0.4854369	36	0.10396511
9393	GO:0016165	lipoxygenase activity	0.19	1	0.4854369	36	0.10396511
3801	GO:0005342	organic acid transmembrane transporter activity	0.19	2	0.9708738	136	0.3927571
22444	GO:0046943	carboxylic acid transmembrane transporter activity	0.19	2	0.9708738	136	0.3927571
8980	GO:0015711	organic anion transport	0.20	1	0.4854369	37	0.10685303
3758	GO:0005267	potassium channel activity	0.20	1	0.4854369	37	0.10685303
4942	GO:0006855	drug transmembrane transport	0.20	2	0.9708738	139	0.40142086
8607	GO:0015197 GO	peptide transporter activity	0.20	2	0.9708738	139	0.40142086
8608	GO:0015198	oligopeptide transporter activity	0.20	2	0.9708738	139	0.40142086
8642	GO:0015238 GO	drug transmembrane transporter activity	0.20	2	0.9708738	139	0.40142086
9154	GO:0015893	drug transport	0.20	2	0.9708738	139	0.40142086
18832	GO:0042493 GO	response to drug	0.20	2	0.9708738	139	0.40142086
4231	GO:0005991	trehalose metabolic process	0.20	1	0.4854369	38	0.10974095
12538	GO:0022843	voltage-gated cation channel activity	0.20	1	0.4854369	38	0.10974095
9796	GO:0016741	transferase activity, transferring one-carbon groups	0.20	3	1.4563106	261	0.7537471
9837	GO:0016788	hydrolase activity, acting on ester bonds	0.20	12	5.8252425	1534	4.430069
4944	GO:0006857	oligopeptide transport	0.20	2	0.9708738	141	0.4071967
9099	GO:0015833	peptide transport	0.20	2	0.9708738	141	0.4071967
9699	GO:0016616	oxidoreductase activity, acting on the CH-OH group	0.21	3	1.4563106	266	0.7681867
5891	GO:0008395 GO	steroid hydroxylase activity	0.21	1	0.4854369	40	0.1155168
12794	GO:0030234	enzyme regulator activity	0.22	4	1.9417475	403	1.1638317
4874	GO:0006767	water-soluble vitamin metabolic process	0.22	1	0.4854369	42	0.121292636
5607	GO:0008022	protein C-terminus binding	0.22	1	0.4854369	42	0.121292636
6666	GO:0009312	oligosaccharide biosynthetic process	0.22	1	0.4854369	42	0.121292636
8461	GO:0015020 GO	glucuronosyltransferase activity	0.22	1	0.4854369	42	0.121292636
9370	GO:0016138	glycoside biosynthetic process	0.22	1	0.4854369	42	0.121292636
18713	GO:0042364	water-soluble vitamin biosynthetic process	0.22	1	0.4854369	42	0.121292636
21880	GO:0046351	disaccharide biosynthetic process	0.22	1	0.4854369	42	0.121292636
8679	GO:0015297	antiporter activity	0.23	2	0.9708738	152	0.4389638
8682	GO:0015300	solute:solute antiporter activity	0.23	2	0.9708738	152	0.4389638
16603	GO:0034220	ion transmembrane transport	0.23	7	3.3980582	833	2.4056373
4873	GO:0006766	vitamin metabolic process	0.23	1	0.4854369	44	0.12706847
6477	GO:0009110	vitamin biosynthetic process	0.23	1	0.4854369	44	0.12706847
20522	GO:0044272	sulfur compound biosynthetic process	0.23	1	0.4854369	44	0.12706847
6424	GO:0009055 GO	electron carrier activity	0.23	2	0.9708738	154	0.44473964
9114	GO:0015849	organic acid transport	0.24	2	0.9708738	156	0.45051548
22443	GO:0046942	carboxylic acid transport	0.24	2	0.9708738	156	0.45051548
4215	GO:0005975	carbohydrate metabolic process	0.24	8	3.883495	990	2.8590407
19831	GO:0043565	sequence-specific DNA binding	0.24	2	0.9708738	159	0.45917925
6750	GO:0009415	response to water	0.25	1	0.4854369	49	0.14150807
3756	GO:0005261 GO	cation channel activity	0.25	1	0.4854369	49	0.14150807
3490	GO:0004888 GO	transmembrane receptor activity	0.25	5	2.4271846	571	1.6490022
5096	GO:0007047	cellular cell wall organization	0.26	1	0.4854369	50	0.14439599
6932	GO:0009664	plant-type cell wall organization	0.26	1	0.4854369	50	0.14439599
20857	GO:0045229	external encapsulating structure organization	0.26	1	0.4854369	50	0.14439599
30033	GO:0071669	plant-type cell wall organization or biogenesis	0.26	1	0.4854369	50	0.14439599
7173	GO:0009922	fatty acid elongase activity	0.26	1	0.4854369	51	0.14728391
4915	GO:0006817	phosphate transport	0.27	1	0.4854369	52	0.15017183
8528	GO:0015114	phosphate transmembrane transporter activity	0.27	1	0.4854369	52	0.15017183
17801	GO:0035435	phosphate transmembrane transport	0.27	1	0.4854369	52	0.15017183
2809	GO:0003993	acid phosphatase activity	0.27	1	0.4854369	52	0.15017183
12547	GO:0022857 GO	transmembrane transporter activity	0.27	11	5.3398056	1483	4.282785
29246	GO:0070882	cellular cell wall organization or biogenesis	0.27	1	0.4854369	53	0.15305975
9768	GO:0016706	oxidoreductase activity, acting on paired donors, wi	0.28	2	0.9708738	175	0.505386



4894	GO:0006790	sulfur compound metabolic process	0.28	1	0.4854369	55	0.15883559
4224	GO:0005984	disaccharide metabolic process	0.28	1	0.4854369	56	0.16172351
9369	GO:0016137	glycoside metabolic process	0.28	1	0.4854369	56	0.16172351
13082	GO:0030599	pectinesterase activity	0.29	2	0.9708738	178	0.5140497
9813	GO:0016759	cellulose synthase activity	0.29	1	0.4854369	57	0.16461143
6166	GO:0008757	S-adenosylmethionine-dependent methyltransferase activity	0.29	2	0.9708738	180	0.5198256
5819	GO:0008299	isoprenoid biosynthetic process	0.29	1	0.4854369	58	0.16749935
6665	GO:0009311	oligosaccharide metabolic process	0.29	1	0.4854369	58	0.16749935
8558	GO:0015145	monosaccharide transmembrane transporter activity	0.29	1	0.4854369	58	0.16749935
9018	GO:0015749	monosaccharide transport	0.29	1	0.4854369	58	0.16749935
29919	GO:0071555	cell wall organization	0.29	1	0.4854369	58	0.16749935
2831	GO:0004022	alcohol dehydrogenase (NAD) activity	0.30	1	0.4854369	59	0.17038727
4840	GO:0006720	isoprenoid metabolic process	0.30	1	0.4854369	60	0.17327519
14811	GO:0032403	protein complex binding	0.30	1	0.4854369	60	0.17327519
9818	GO:0016765	transferase activity, transferring alkyl or aryl (other than methyl) groups	0.30	2	0.9708738	185	0.53426516
6018	GO:0008559	xenobiotic-transporting ATPase activity	0.31	1	0.4854369	62	0.17905103
19225	GO:0042908	xenobiotic transport	0.31	1	0.4854369	62	0.17905103
19227	GO:0042910	xenobiotic transporter activity	0.31	1	0.4854369	62	0.17905103
18582	GO:0042221	response to chemical stimulus	0.31	3	1.4563106	328	0.94723773
17016	GO:0034637	cellular carbohydrate biosynthetic process	0.31	1	0.4854369	63	0.18193895
26931	GO:0055085	transmembrane transport	0.32	11	5.3398056	1548	4.4705
9293	GO:0016051	carbohydrate biosynthetic process	0.32	1	0.4854369	64	0.18482687
25095	GO:0050790	regulation of catalytic activity	0.32	4	1.9417475	480	1.3862015
12573	GO:0022891	substrate-specific transmembrane transporter activity	0.32	9	4.3689322	1241	3.5839086
28366	GO:0065009	regulation of molecular function	0.33	4	1.9417475	484	1.3977532
9765	GO:0016702	oxidoreductase activity, acting on single donors with NAD, NADP, or ferredoxin as oxidant, and oxygen as oxidant	0.33	1	0.4854369	66	0.1906027
2999	GO:0004312	fatty acid synthase activity	0.33	1	0.4854369	68	0.19637854
21710	GO:0046148	pigment biosynthetic process	0.34	1	0.4854369	69	0.19926646
31420	GO:0080043	quercetin 3-O-glucosyltransferase activity	0.34	1	0.4854369	69	0.19926646
4910	GO:0006811	ion transport	0.35	7	3.3980582	959	2.769515
9812	GO:0016758	transferase activity, transferring hexosyl groups	0.35	4	1.9417475	501	1.4468478
12528	GO:0022832	voltage-gated channel activity	0.35	1	0.4854369	72	0.20793022
15280	GO:0032879	regulation of localization	0.35	1	0.4854369	72	0.20793022
17141	GO:0034762	regulation of transmembrane transport	0.35	1	0.4854369	72	0.20793022
17144	GO:0034765	regulation of ion transmembrane transport	0.35	1	0.4854369	72	0.20793022
19568	GO:0043269	regulation of ion transport	0.35	1	0.4854369	72	0.20793022
25348	GO:0051049	regulation of transport	0.35	1	0.4854369	72	0.20793022
3744	GO:0005244	voltage-gated ion channel activity	0.35	1	0.4854369	72	0.20793022
9703	GO:0016620	oxidoreductase activity, acting on the aldehyde or alcohol group of substrates	0.35	1	0.4854369	73	0.21081814
18786	GO:0042440	pigment metabolic process	0.35	1	0.4854369	73	0.21081814
25510	GO:0051213	dioxygenase activity	0.36	1	0.4854369	75	0.21659398
3627	GO:0005085	guanyl-nucleotide exchange factor activity	0.36	1	0.4854369	75	0.21659398
8494	GO:0015075	ion transmembrane transporter activity	0.37	6	2.9126213	827	2.3883097
3476	GO:0004872	receptor activity	0.37	5	2.4271846	672	1.9406822
12574	GO:0022892	substrate-specific transporter activity	0.37	10	4.854369	1463	4.2250266
15189	GO:0032787	monocarboxylic acid metabolic process	0.38	1	0.4854369	81	0.23392151
30066	GO:0071702	organic substance transport	0.39	4	1.9417475	529	1.5277096
4912	GO:0006813	potassium ion transport	0.39	1	0.4854369	84	0.24258527
30168	GO:0071804	cellular potassium ion transport	0.39	1	0.4854369	84	0.24258527
30169	GO:0071805	potassium ion transmembrane transport	0.39	1	0.4854369	84	0.24258527
19125	GO:0042802	identical protein binding	0.40	5	2.4271846	697	2.01288
21331	GO:0045735	nutrient reservoir activity	0.41	1	0.4854369	89	0.25702485
3723	GO:0005215	transporter activity	0.42	12	5.8252425	1844	5.325324
3644	GO:0005102	receptor binding	0.42	1	0.4854369	91	0.2628007
5712	GO:0008168	methyltransferase activity	0.43	2	0.9708738	244	0.7046524
11712	GO:0019748	secondary metabolic process	0.43	1	0.4854369	95	0.27435237
20512	GO:0044262	cellular carbohydrate metabolic process	0.43	2	0.9708738	248	0.7162041
2628	GO:0003677	DNA binding	0.44	8	3.883495	1224	3.534814
25195	GO:0050896	response to stimulus	0.44	12	5.8252425	1881	5.432177
3306	GO:0004674	protein serine/threonine kinase activity	0.45	7	3.3980582	1062	3.0669708
5874	GO:0008374	O-acyltransferase activity	0.46	1	0.4854369	102	0.29456782
19126	GO:0042803	protein homodimerization activity	0.47	2	0.9708738	265	0.7652988
22049	GO:0046527	glucosyltransferase activity	0.48	2	0.9708738	270	0.77973837
3626	GO:0005083	small GTPase regulator activity	0.48	1	0.4854369	111	0.3205591
5070	GO:0007017	microtubule-based process	0.49	1	0.4854369	112	0.32344702
5071	GO:0007018	microtubule-based movement	0.49	1	0.4854369	112	0.32344702
29918	GO:0071554	cell wall organization or biogenesis	0.49	1	0.4854369	112	0.32344702
9933	GO:0016903	oxidoreductase activity, acting on the aldehyde or alcohol group of substrates	0.49	1	0.4854369	113	0.32633495
4357	GO:0006139	nucleobase, nucleoside, nucleotide and nucleic acid metabolic process	0.49	20	9.708738	3285	9.486816
22478	GO:0046982	protein heterodimerization activity	0.49	1	0.4854369	114	0.32922286
3874	GO:0005509	calcium ion binding	0.50	2	0.9708738	279	0.8057296
9535	GO:0016407	acetyltransferase activity	0.50	1	0.4854369	115	0.3321108
20531	GO:0044281	small molecule metabolic process	0.50	11	5.3398056	1788	5.1636004
27063	GO:0060089	molecular transducer activity	0.50	5	2.4271846	787	2.2727928
3475	GO:0004871	signal transducer activity	0.50	5	2.4271846	787	2.2727928
25416	GO:0051119	sugar transmembrane transporter activity	0.51	1	0.4854369	118	0.34077454
14667	GO:0032259	methylation	0.51	2	0.9708738	285	0.8230572
22375	GO:0046872	metal ion binding	0.51	18	8.7378645	2985	8.6204405
12532	GO:0022836	gated channel activity	0.52	1	0.4854369	122	0.3523262
19470	GO:0043167	ion binding	0.52	18	8.7378645	2997	8.655096
19472	GO:0043169	cation binding	0.52	18	8.7378645	2997	8.655096
3260	GO:0004620	phospholipase activity	0.52	1	0.4854369	123	0.35521415
17020	GO:0034641	cellular nitrogen compound metabolic process	0.52	22	10.679611	3678	10.621769
12741	GO:0030170	pyridoxal phosphate binding	0.53	1	0.4854369	126	0.3638779
28643	GO:0070279	vitamin B6 binding	0.53	1	0.4854369	126	0.3638779
4906	GO:0006807	nitrogen compound metabolic process	0.55	22	10.679611	3725	10.757502
3724	GO:0005216	ion channel activity	0.57	1	0.4854369	140	0.40430877
6046	GO:0008610	lipid biosynthetic process	0.57	1	0.4854369	141	0.4071967
13164	GO:0030695	GTPase regulator activity	0.57	1	0.4854369	142	0.4100846
8557	GO:0015144	carbohydrate transmembrane transporter activity	0.57	1	0.4854369	143	0.41297254
16602	GO:0034219	carbohydrate transmembrane transport	0.57	1	0.4854369	143	0.41297254
4849	GO:0006730	one-carbon metabolic process	0.58	2	0.9708738	325	0.93857396

3873	GO:0005507	copper ion binding	0.58	1	0.4854369	146	0.42163628
6071	GO:0008643 GO	carbohydrate transport	0.58	1	0.4854369	147	0.42452422
5909	GO:0008415	acyltransferase activity	0.59	2	0.9708738	330	0.95301354
22415	GO:0046914	transition metal ion binding	0.59	15	7.2815533	2599	7.5057034
11426	GO:0019438	aromatic compound biosynthetic process	0.59	1	0.4854369	149	0.43030006
27562	GO:0060589	nucleoside-triphosphatase regulator activity	0.60	1	0.4854369	152	0.4389638
4909	GO:0006810 GO	transport	0.63	13	6.3106794	2315	6.6855345
25529	GO:0051234	establishment of localization	0.63	13	6.3106794	2315	6.6855345
25476	GO:0051179	localization	0.63	13	6.3106794	2319	6.697086
9811	GO:0016757 GO	transferase activity, transferring glycosyl groups	0.63	4	1.9417475	729	2.1052935
6899	GO:0009628	response to abiotic stimulus	0.64	1	0.4854369	170	0.49094638
3341	GO:0004722 GO	protein serine/threonine phosphatase activity	0.64	1	0.4854369	171	0.4938343
3307	GO:0004675	transmembrane receptor protein serine/threonine k	0.64	2	0.9708738	367	1.0598665
11787	GO:0019842	vitamin binding	0.65	1	0.4854369	177	0.5111618
9839	GO:0016791 GO	phosphatase activity	0.67	2	0.9708738	383	1.1060733
20505	GO:0044255	cellular lipid metabolic process	0.67	1	0.4854369	184	0.53137726
4844	GO:0006725	cellular aromatic compound metabolic process	0.67	1	0.4854369	185	0.53426516
5195	GO:0007165 GO	signal transduction	0.68	5	2.4271846	961	2.775291
12602	GO:0023052 GO	signaling	0.68	5	2.4271846	961	2.775291
3304	GO:0004672 GO	protein kinase activity	0.68	7	3.3980582	1333	3.8495972
9906	GO:0016874	ligase activity	0.69	3	1.4563106	597	1.7240882
10244	GO:0018130	heterocycle biosynthetic process	0.70	1	0.4854369	199	0.57469606
3340	GO:0004721	phosphoprotein phosphatase activity	0.70	1	0.4854369	199	0.57469606
8673	GO:0015291 GO	secondary active transmembrane transporter activi	0.70	2	0.9708738	407	1.1753833
4954	GO:0006869	lipid transport	0.71	1	0.4854369	208	0.6006873
8085	GO:0010876	lipid localization	0.71	1	0.4854369	208	0.6006873
18956	GO:0042626	ATPase activity, coupled to transmembrane movem	0.72	1	0.4854369	211	0.6093511
9861	GO:0016820	hydrolase activity, acting on acid anhydrides, cataly	0.72	1	0.4854369	212	0.612239
9494	GO:0016311	dephosphorylation	0.72	2	0.9708738	425	1.227366
17617	GO:0035251	UDP-glucosyltransferase activity	0.73	1	0.4854369	218	0.62956655
18912	GO:0042578	phosphoric ester hydrolase activity	0.74	2	0.9708738	444	1.282365
19758	GO:0043492	ATPase activity, coupled to movement of substance	0.76	1	0.4854369	235	0.67866117
3885	GO:0005525	GTP binding	0.77	1	0.4854369	245	0.70754033
11032	GO:0019001	guanyl nucleotide binding	0.77	1	0.4854369	245	0.70754033
14967	GO:0032561	guanyl ribonucleotide binding	0.77	1	0.4854369	245	0.70754033
9824	GO:0016773	phosphotransferase activity, alcohol group as acce	0.79	7	3.3980582	1493	4.311664
8749	GO:0015399	primary active transmembrane transporter activity	0.79	1	0.4854369	260	0.75085914
8753	GO:0015405	P-P-bond-hydrolysis-driven transmembrane transpo	0.79	1	0.4854369	260	0.75085914
9285	GO:0016043	cellular component organization	0.79	1	0.4854369	261	0.75374711
4649	GO:0006520 GO	cellular amino acid metabolic process	0.81	1	0.4854369	277	0.7999538
25998	GO:0051716	cellular response to stimulus	0.81	5	2.4271846	1138	3.2864528
30205	GO:0071841	cellular component organization or biogenesis at ce	0.82	1	0.4854369	285	0.8230572
20356	GO:0044106	cellular amine metabolic process	0.84	1	0.4854369	303	0.8750397
9889	GO:0016853	isomerase activity	0.84	1	0.4854369	306	0.8837035
6662	GO:0009308	amine metabolic process	0.85	1	0.4854369	314	0.9068068
12516	GO:0022804	active transmembrane transporter activity	0.85	3	1.4563106	787	2.2727928
2975	GO:0004175 GO	endopeptidase activity	0.85	1	0.4854369	320	0.9241344
9836	GO:0016787	hydrolase activity	0.85	18	8.7378645	3723	10.751725
5732	GO:0008194	UDP-glycosyltransferase activity	0.85	1	0.4854369	322	0.9299102
3955	GO:0005634	nucleus	0.86	6	2.9126213	1433	4.138389
20488	GO:0044238	primary metabolic process	0.87	48	23.30097	9167	26.47356
20533	GO:0044283	small molecule biosynthetic process	0.88	1	0.4854369	347	1.0021082
20487	GO:0044237	cellular metabolic process	0.88	42	20.38835	8185	23.637625
30204	GO:0071840	cellular component organization or biogenesis	0.89	1	0.4854369	362	1.045427
20521	GO:0044271	cellular nitrogen compound biosynthetic process	0.89	1	0.4854369	367	1.0598665
12608	GO:0030001	metal ion transport	0.89	1	0.4854369	374	1.080082
4408	GO:0006200	ATP catabolic process	0.90	2	0.9708738	641	1.8511566
9918	GO:0016887 GO	ATPase activity	0.90	2	0.9708738	641	1.8511566
21600	GO:0046034	ATP metabolic process	0.90	2	0.9708738	641	1.8511566
9488	GO:0016301	kinase activity	0.90	7	3.3980582	1740	5.0249805
8943	GO:0015672	monovalent inorganic cation transport	0.90	1	0.4854369	383	1.1060733
20510	GO:0044260 GO	cellular macromolecule metabolic process	0.90	27	13.106796	5577	16.105928
9913	GO:0016881	acid-amino acid ligase activity	0.90	1	0.4854369	391	1.1291766
15436	GO:0033036	macromolecule localization	0.91	1	0.4854369	397	1.1465042
9845	GO:0016798	hydrolase activity, acting on glycosyl bonds	0.91	1	0.4854369	401	1.1580559
4612	GO:0006468	protein phosphorylation	0.91	9	4.3689322	2205	6.367863
9579	GO:0016462	pyrophosphatase activity	0.93	3	1.4563106	954	2.750755
9859	GO:0016818	hydrolase activity, acting on acid anhydrides, in pho	0.93	3	1.4563106	956	2.7608514
9858	GO:0016817	hydrolase activity, acting on acid anhydrides	0.93	3	1.4563106	959	2.769515
7229	GO:0009987 GO	cellular process	0.93	54	26.213593	10601	30.614838
4641	GO:0006508	proteolysis	0.93	3	1.4563106	965	2.7868426
9911	GO:0016879	ligase activity, forming carbon-nitrogen bonds	0.94	1	0.4854369	456	1.3168914
3876	GO:0005515 GO	protein binding	0.94	33	16.019417	6933	20.021948
9823	GO:0016772	transferase activity, transferring phosphorus-contain	0.95	7	3.3980582	1932	5.579461
4405	GO:0006195	purine nucleotide catabolic process	0.95	2	0.9708738	773	2.232362
6508	GO:0009143	nucleoside triphosphate catabolic process	0.95	2	0.9708738	773	2.232362
6509	GO:0009144	purine nucleoside triphosphate metabolic process	0.95	2	0.9708738	773	2.232362
6511	GO:0009146	purine nucleoside triphosphate catabolic process	0.95	2	0.9708738	773	2.232362
6519	GO:0009154	purine ribonucleotide catabolic process	0.95	2	0.9708738	773	2.232362
6530	GO:0009166	nucleotide catabolic process	0.95	2	0.9708738	773	2.232362
6567	GO:0009203	ribonucleoside triphosphate catabolic process	0.95	2	0.9708738	773	2.232362
6569	GO:0009205	purine ribonucleoside triphosphate metabolic proces	0.95	2	0.9708738	773	2.232362
6571	GO:0009207	purine ribonucleoside triphosphate catabolic proces	0.95	2	0.9708738	773	2.232362
6624	GO:0009261	ribonucleotide catabolic process	0.95	2	0.9708738	773	2.232362
17034	GO:0034655	nucleobase, nucleoside, nucleotide and nucleic acid	0.95	2	0.9708738	773	2.232362
17035	GO:0034656	nucleobase, nucleoside and nucleotide catabolic pr	0.95	2	0.9708738	773	2.232362
22209	GO:0046700	heterocycle catabolic process	0.95	2	0.9708738	773	2.232362
30879	GO:0072523	purine-containing compound catabolic process	0.95	2	0.9708738	773	2.232362
20520	GO:0044270	cellular nitrogen compound catabolic process	0.95	2	0.9708738	777	2.2439137
6563	GO:0009199	ribonucleoside triphosphate metabolic process	0.95	2	0.9708738	790	2.2814567
6515	GO:0009150	purine ribonucleotide metabolic process	0.95	2	0.9708738	791	2.2843447
6506	GO:0009141	nucleoside triphosphate metabolic process	0.95	2	0.9708738	796	2.2987843



4373	GO:0006163	purine nucleotide metabolic process	0.96	2	0.9708738	810	2.339215
6622	GO:0009259 GO	ribonucleotide metabolic process	0.96	2	0.9708738	812	2.344991
19473	GO:0043170 GO	macromolecule metabolic process	0.96	30	14.563107	6553	18.92454
30877	GO:0072521	purine-containing compound metabolic process	0.96	2	0.9708738	827	2.3883097
2627	GO:0003676	nucleic acid binding	0.96	9	4.3689322	2453	7.0840673
22007	GO:0046483	heterocycle metabolic process	0.96	3	1.4563106	1094	3.1593843
18953	GO:0042623	ATPase activity, coupled	0.96	1	0.4854369	537	1.550813
28378	GO:0070011	peptidase activity, acting on L-amino acid peptides	0.96	1	0.4854369	537	1.550813
5840	GO:0008324	cation transmembrane transporter activity	0.96	1	0.4854369	538	1.5537009
9267	GO:0016021	integral to membrane	0.96	3	1.4563106	1103	3.1853757
20532	GO:0044282	small molecule catabolic process	0.96	2	0.9708738	854	2.4662836
4897	GO:0006793	phosphorus metabolic process	0.97	11	5.3398056	2925	8.4471655
4900	GO:0006796	phosphate metabolic process	0.97	11	5.3398056	2925	8.4471655
9493	GO:0016310	phosphorylation	0.97	9	4.3689322	2504	7.2313514
5763	GO:0008233	peptidase activity	0.97	1	0.4854369	565	1.6316746
10058	GO:0017111	nucleoside-triphosphatase activity	0.97	2	0.9708738	878	2.5355935
5791	GO:0008270	zinc ion binding	0.97	6	2.9126213	1880	5.4292893
20498	GO:0044248	cellular catabolic process	0.97	2	0.9708738	894	2.5818002
3863	GO:0005488	binding	0.97	70	33.980583	13903	40.15075
4867	GO:0006753	nucleoside phosphate metabolic process	0.97	2	0.9708738	914	2.6395588
6484	GO:0009117	nucleotide metabolic process	0.97	2	0.9708738	914	2.6395588
13656	GO:0031224	intrinsic to membrane	0.97	3	1.4563106	1193	3.4452884
5018	GO:0006950	response to stress	0.97	1	0.4854369	611	1.764519
131	GO:0000166	nucleotide binding	0.98	3	1.4563106	1213	3.5030468
26932	GO:0055086	nucleobase, nucleoside and nucleotide metabolic p	0.98	2	0.9708738	944	2.7261963
4911	GO:0006812 GO	cation transport	0.98	1	0.4854369	662	1.9118029
4609	GO:0006464	protein modification process	0.99	9	4.3689322	2781	8.031305
6425	GO:0009056	catabolic process	0.99	2	0.9708738	1051	3.0352037
19526	GO:0043227	membrane-bounded organelle	0.99	6	2.9126213	2142	6.185924
19530	GO:0043231	intracellular membrane-bounded organelle	0.99	6	2.9126213	2142	6.185924
9266	GO:0016020	membrane	0.99	13	6.3106794	3741	10.803708
18000	GO:0035639	purine ribonucleoside triphosphate binding	0.99	1	0.4854369	769	2.2208104
19684	GO:0043412	macromolecule modification	0.99	9	4.3689322	2900	8.374968
14959	GO:0032553	ribonucleotide binding	0.99	1	0.4854369	795	2.2958963
14961	GO:0032555	purine ribonucleotide binding	0.99	1	0.4854369	795	2.2958963
10033	GO:0017076	purine nucleotide binding	0.99	1	0.4854369	797	2.3016722
2653	GO:0003723	RNA binding	0.99	1	0.4854369	797	2.3016722
20619	GO:0044425	membrane part	0.99	3	1.4563106	1523	4.398302
20517	GO:0044267	cellular protein metabolic process	1.00	9	4.3689322	3225	9.313541
11522	GO:0019538 GO	protein metabolic process	1.00	12	5.8252425	4134	11.938661
4027	GO:0005737	cytoplasm	1.00	3	1.4563106	2001	5.7787275
19525	GO:0043226	organelle	1.00	6	2.9126213	3013	8.701303
19528	GO:0043229	intracellular organelle	1.00	6	2.9126213	3013	8.701303
20618	GO:0044424	intracellular part	1.00	9	4.3689322	3853	11.127155
3945	GO:0005622	intracellular	1.00	11	5.3398056	4751	13.720507
3946	GO:0005623	cell	1.00	24	11.650485	8227	23.758917
20657	GO:0044464	cell part	1.00	24	11.650485	8227	23.758917
3903	GO:0005575 GO	cellular_component	1.00	24	11.650485	8515	24.590637