Predicted Metagenome (PICRUSt)

#Functions	MEAN				SEM				one-way ANOVA		Tukey values	
	KO DEF	KO DEF ITF	WT DEF	WT DEF ITF	KO DEF	KO DEF ITF	WT DEF	WT DEF ITF	p.value	q.value	KO DEF ITF vs KO DEF	WT DEF vs WT DEF ITF
Bacterial chemotaxis	147324,3333	45365,72222	129737,4444	88104,55556	11138,31233	4685,871636	5680,498602	9735,87853	***8,1035E-013***	***2,1798E-010***	***8,6270E-012***	***0,002019551***
Bacterial motility proteins	314579,8667	117773,2778	287854,3889	211188,4444	23002,14651	10238,07114	12151,88814	17849,85806	***2,1690E-012***	***2,9172E-010***	***2,5232E-011***	***0,005053913***
Flagellar assembly	147678,3333	36871,66667	124140,3333	77688,33333	12841,78199	4902,877338	7635,032631	9910,442234	***3,3274E-012***	***2,9836E-010***	***2,2087E-011***	***0,002113987***
Mineral absorption	1230,266667	313,3888889	1027,833333	503,8888889	133,4637624	36,82374011	87,96019042	63,59696877	***3,2441E-011***	***2,1817E-009***	***9,3531E-010***	***0,00013947***
Sporulation	157994,3333	40096	128898,4444	78057,5	10274,08691	10330,38418	6832,972685	17112,72083	***6,2184E-009***	***3,3455E-007***	***2,1105E-008***	***0,015374891***
beta-Lactam resistance	2379,266667	6433,666667	4841,277778	7052,944444	491,8253413	401,4408933	498,8008614	473,7823021	***8,0859E-009***	***3,6252E-007***	***6,3614E-007***	***0,005880445***
Flavone and flavonol biosynthesis	2980,8	598,7222222	2579,722222	1479,777778	328,089262	129,3045957	252,0586326	274,0369418	***9,8197E-009***	***3,7736E-007***	***6,1651E-008***	***0,011928793***
Porphyrin and chlorophyll metabolism	188094,8667	104736	181245,9444	169492,7222	6612,707917	7016,530094	4217,788592	15978,89709	***1,1450E-007***	***3,8501E-006***	***1,0199E-006***	0,822437841
Plant-pathogen interaction	34829,6	21777,55556	33552,44444	30649,88889	1263,360868	1399,301126	858,729112	2144,921759	***0,000000134***	***4,0041E-006***	***7,2851E-007***	0,512948722
Ion channels	2494,733333	6973,611111	5154,277778	8480,388889	340,9355821	602,5659302	563,1236343	880,4166317	***1,6392E-007***	***4,4094E-006***	***6,3852E-005***	***0,002369418***
Cellular antigens	7992,266667	11762,83333	8740,166667	11987,38889	409,2216126	361,7311974	304,4962759	858,8449765	***3,8080E-007***	***8,0393E-006***	***5,8039E-005***	***0,000303548***
Penicillin and cephalosporin biosynthesis	2750,133333	8045,666667	6541,388889	8947,333333	655,9695613	538,8880284	747,1605865	819,6929443	***0,0000004***	***8,0393E-006***	***1,3686E-005***	0,074545239
Betalain biosynthesis	579,2	129,2222222	550	213,8333333	113,203197	29,75549112	59,83976425	23,61624704	***4,1840E-007***	***8,0393E-006***	***0,00002266***	***0,001080242***
Indole alkaloid biosynthesis	579,2	129,2222222	550	213,8333333	113,203197	29,75549112	59,83976425	23,61624704	***4,1840E-007***	***8,0393E-006***	***0,00002266***	***0,001080242***
Phosphatidylinositol signaling system	15746,46667	20639	19305,05556	23498,38889	563,4864672	631,5473528	797,8413666	1182,159739	***5,6979E-007***	***1,0218E-005***	***0,001053746***	***0,003800613***
Folate biosynthesis	60607,66667	77366,44444	73079,55556	91556,27778	2316,388607	2162,273879	2864,31036	5135,064146	***6,9334E-007***	***1,1626E-005***	***0,006750116***	***0,001294632***
Ethylbenzene degradation	10565,86667	7561,388889	10390,33333	9805,833333	273,0591575	404,2967277	214,925386	524,6493958	***7,3475E-007***	***1,1626E-005***	***5,7288E-006***	0,688495549
Various types of N-glycan biosynthesis	678,9333333	155,0555556	612,2777778	231,4444444	125,92751	30,71622937	84,99326408	24,64588714	***1,0972E-006***	***1,6397E-005***	***3,5456E-005***	***0,002060033***
Ubiquinone and other terpenoid-quinone biosynthesis	26434,06667	58072,94444	43186,72222	71972,72222	3257,000985	2833,14744	3131,340837	9109,300151	***1,6107E-006***	***2,2804E-005***	***0,000891599***	***0,001630429***
Lipopolysaccharide biosynthesis	43679	79647,72222	67346	91123,27778	4511,82575	4365,137148	4613,157467	7963,992673	***2,2747E-006***	***0,000030595***	***0,000262164***	***0,017984232***
Fatty acid elongation in mitochondria	428,5333333	1945,166667	1788,111111	1986,944444	185,5277124	179,0375732	254,2566365	224,3903501	***7,5141E-006***	***8,1086E-005***	***4,8707E-005***	0,909674202
Systemic lupus erythematosus	428,5333333	1945,166667	1788,111111	1986,944444	185,5277124	179,0375732	254,2566365	224,3903501	***7,5141E-006***	***8,1086E-005***	***4,8707E-005***	0,909674202
Caffeine metabolism	428,6	1945,222222	1788,166667	1986,944444	185,5169046	179,0463217	254,263119	224,3903501	***7,5194E-006***	***8,1086E-005***	***4,8722E-005***	0,909744103
Circadian rhythm - plant	428,6	1945,222222	1788,277778	1986,944444	185,5241173	179,0645729	254,2799883	224,3903501	***7,5248E-006***	***8,1086E-005***	***4,8765E-005***	0,909890572
Steroid biosynthesis	1285,933333	5835,888889	5364,722222	5960,666667	556,634226	537,1509439	762,8824416	673,2088072	***7,5358E-006***	***8,1086E-005***	***4,8781E-005***	0,909922129
Renal cell carcinoma	2061,666667	3961,666667	3341,166667	4372,666667	198,0655175	297,189625	290,3196936	352,0934127	***8,0819E-006***	***8,3616E-005***	***0,000232976***	0,068112362
Chagas disease (American trypanosomiasis)	439,0666667	2777,277778	1795,222222	3365,5	184,7040481	311,6338224	255,1710122	589,6672167	***9,1982E-006***	***8,9568E-005***	***0,000439714***	***0,021008402***
African trypanosomiasis	464,0666667	2796,5	1820,5	3380,555556	185,3356663	309,0787836	255,7635787	588,035281	***0,000009323***	***8,9568E-005***	***0,000437247***	***0,021635769***
Glycosphingolipid biosynthesis - ganglio series	9204,8	17872,77778	12610,11111	15861,94444	1400,882954	1182,220459	864,1480934	1133,365673	***0,000009658***	***8,9586E-005***	***1,1404E-005***	0,178114732
Steroid hormone biosynthesis	5654,533333	13026,5	12244,55556	13250,16667	1065,374072	936,0108871	1199,620458	1033,293302	***1,0294E-005***	***9,0972E-005***	***6,4263E-005***	0,903744654
RNA transport	29483,06667	21091,38889	29002,27778	27727,66667	964,7339898	1129,715208	769,2822723	1698,357786	***1,0484E-005***	***9,0972E-005***	***6,4095E-005***	0,872469751
Glycosaminoglycan degradation	16110,73333	30910,55556	25643,33333	29364,33333	2349,697524	1697,515051	1951,285367	1981,831705	***1,1694E-005***	***9,8300E-005***	***1,5922E-005***	0,531507599
Germination	6076,666667	1607,111111	5458,833333	3695,277778	408,2641263	531,9127029	325,1240211	961,6850707	***1,3022E-005***	***0,000106145***	***3,4784E-005***	0,183944179
Ubiquitin system	680,0666667	3671,888889	1979,666667	4408,222222	244,9387769	348,9786301	254,4617028	868,4911812	***1,5428E-005***	***0,000122065***	***0,000990646***	***0,006423788***
Riboflavin metabolism	35169,13333	45353,05556	42239,11111	55808,27778	1328,545792	1406,420528	1832,852331	4417,680379	***1,6135E-005***	***0,000122467***	0,050866595	***0,002663355***
Carotenoid biosynthesis	564,5333333	1974	1855,166667	2042,777778	175,3219859	180,3856798	249,6663165	218,0458151	***1,6576E-005***	***0,000122467***	***0,00011823***	0,918122717
Cell motility and secretion	36398,13333	54134	54587,61111	63267	2550,816233	2699,181662	3490,475353	4393,003842	***1,6845E-005***	***0,000122467***	***0,003860868***	0,271023748
Prenyltransferases	54097,33333	63315,55556	63592,94444	71331,72222	1558,432083	1878,76553	2416,334958	2523,391023	***0,000018513***	***0,000126672***	***0,024669067***	0,059473183
Toluene degradation	15071,13333	27138,33333	20662,44444	33199,44444	1942,718779	1356,135209	1322,864263	3990,346648	***1,8619E-005***	***0,000126672***	***0,006514372***	***0,002561907***
Sulfur metabolism	50432,93333	62328,88889	63818,33333	76106,05556	1822,135538	2118,017434	2957,098704	4851,503239	***1,8836E-005***	***0,000126672***	0,067761834	***0,040781662***
Drug metabolism - other enzymes	65002,73333	46159,72222	60592,5	61125,66667	1688,982549	2156,64202	1718,210293	4012,51308	***2,0057E-005***	***0,000129438***	***3,8474E-005***	0,998889591
Methane metabolism	260693,2667	185304,1111	252713,1111	251519,1111	6575,641524	10539,59533	5683,096911	17164,79663	***2,0210E-005***	***0,000129438***	***0,000118003***	0,999838747
Transcription machinery	207572,6	181537,9444	231093,7222	212178,6111	2321,036642	7028,816105	5596,070581	8944,282439	***2,2445E-005***	***0,00014041***	***0,045316957***	0,1842923
Atrazine degradation	8224,333333	10695,77778	14541,05556	14734,66667	623,9608402	866,1127587	926,322709	1324,522985	***2,4793E-005***	***0,000151575***	0,326813637	0,998999934
Glycosyltransferases	56718,53333	72438	72770,83333	90506,05556	1922,462894	2785,585497	3111,351707	7188,832392	***3,2196E-005***	***0,00019246***	0,078145441	***0,025758225***
Huntington's disease	6571,266667	8507,444444	8289	11186,11111	357,9371515	449,1958772	453,1420949	948,9382849	***3,4279E-005***	***0,000198052***	0,145263365	***0,006378781***
Biotin metabolism	24807,66667	29399,16667	28116,11111	33628,38889	931,3133924	906,4822233	1090,314136	1570,859115	***3,4604E-005***	***0,000198052***	***0,044130303***	***0,006515793***
Lipoic acid metabolism	8288,666667	11162,44444	10581,44444	12979,55556	469,9804825	354,6931402	432,5467161	981,3524189	***0,000041936***	***0,000235016***	***0,012124133***	***0,035362275***
Lipopolysaccharide biosynthesis proteins	63077,2	102026,4444	87329,16667	124931,7778	4689,976753	5099,278061	4726,85417	14163,3282	***4,8603E-005***	***0,000266821***	***0,012505627***	***0,011168359***
Cytoskeleton proteins	71665,33333	46095,27778	66293,5	57326,61111	2893,069911	3726,498821	2476,614316	5030,1137	***5,4783E-005***	***0,000294733***	***7,6150E-005***	0,31424613
Fatty acid biosynthesis	93060,93333	71939,72222	96772,44444	95815,88889	2450,263623	3115,937838	2957,117192	6156,274326	***6,3888E-005***	***0,00033698***	***0,003577989***	0,998232832
Amoebiasis	2969,2	3049	4267,944444	3280,222222	185,9882536	219,7855164	198,052899	208,9287735	***6,8912E-005***	***0,000356489***	0,993254075	***0,005029525***
Meiosis - yeast	1589,866667	4166,444444	4290,888889	4351,166667	363,3773307	377,4885638	520,4643094	442,9657938	***0,000072006***	***0,000365465***	***0,000760871***	0,999642439
Membrane and intracellular structural molecules	88295	128090,8889	109920,8889	156065,8889	5304,690593	4380,038921	5243,766119	16753,33075	***8,2956E-005***	***0,000413244***	***0,031692785***	***0,005727619***
Non-homologous end-joining	2338,6	6036,111111	5873,388889	6309,722222	524,9396954	508,9106005	755,5724278	631,4438575	***9,7592E-005***	***0,000469572***	***0,000677208***	0,95721439
C5-Branched dibasic acid metabolism	65431,06667	47884,55556	65487,16667	67115,72222	1777,46973	2158,016005	1593,861704	5339,569859	***9,7755E-005***	***0,000469572***	***0,002040825***	0,98311078
Valine, leucine and isoleucine biosynthesis	149892,4667	126061,1111	160201,1667	163700,8889	2836,040422	5293,7924	3938,026577	9255,263884	***0,000106315***	***0,00049787***	***0,042035885***	0,975393723
Protein digestion and absorption	2335,666667	4334,111111	2295,722222	3124,222222	369,4401513	372,5610437	219,60438	363,761185	***0,000107347***	***0,00049787***	***0,000664554***	0,290988645
Proximal tubule bicarbonate reclamation	4832,866667	7971,5	8618,888889	9896,944444	541,3297461	494,5784912	705,022022	1009,408872	***0,000126877***	***0,000578471***	***0,022096399***	0,590347572
RNA degradation	82697,6	87904,77778	91688,94444	103002	1564,538967	2747,46035	2559,476852	4316,071773	***0,000164859***	***0,000739118***	0,647580304	***0,046455498***
Glycerolipid metabolism	89241,13333	62917,5	87921,05556	91713,61111	2827,102162	4847,03716	1895,764206	7564,057808	***0,000196567***	***0,00085819***	***0,002770988***	0,945299735
Fluorobenzoate degradation	861,6666667	4387,944444	3584,333333	6699,333333	370,692488	425,4304354	508,6359691	1456,013155	***0,000197798***	***0,00085819***	***0,028870115***	***0,049146759***
Staphylococcus aureus infection	348,4666667	416,6666667	309,6666667	1184,277778	33,64844391	48,3019506	34,33866321	285,2458612	***0,000200989***	***0,00085819***	0,989848005	***0,00059539***
Oxidative phosphorylation	197701,4	211883,2778	219111,9444	253612,2222	4588,827804	8002,145866	6511,862857	12237,80035	***0,000209711***	***0,000881442***	0,668521014	***0,025574559***
Apoptosis	286,2666667	210,5555556	486,4444444	379,6111111	61,2756043	22,92702578	51,05637165	38,15629527	***0,00022001***	***0,000907272***	0,642068028	0,309209837
Arginine and proline metabolism	247600,2	214480,2778	264227,0556	283939,3333	3167,502139	8075,064486	5497,068536	18409,39079	***0,000222602***	***0,000907272***	0,170949034	0,567799311
Inorganic ion transport and metabolism	39232,6	57536,55556	55678,72222	78582,16667	2084,235595	3025,883526	2812,236536	10162,17539	***0,000229304***	***0,000920639***	0,141690445	***0,029009291***
Transporters	1555951,533	940874,8333	1443325,667	1540007,778	68919,60164	65419,96729	41210,98093	182436,4547	***0,000242939***	***0,000961039***	***0,001160515***	0,915780222
N-Glycan biosynthesis	5194,066667	7347,333333	7483,944444	7502,444444	420,7100061	318,1733712	461,4723699	371,5567165	***0,000251849***	***0,000981844***	***0,002112906***	0,999986014
Lipid biosynthesis proteins	112822,3333	97744,88889	122583,9444	128803,3889	2242,995717	3541,623929	3417,604165	8209,673078	***0,000257069***	***0,000987879***	0,184681001	0,814202748
Isoquinoline alkaloid biosynthesis	9708,4	11331,77778	11695,61111	14075,22222	292,087932	283,4810175	397,9329199	1129,306611	***0,000261108***	***0,000989268***	0,328628909	0,051619179
Geraniol degradation	6973,4	15792,94444	12153,22222	22697,22222	851,3360469	1520,581241	1033,67835	4190,930629	***0,000297496***	***0,001111477***	0,067575712	***0,012922838***
Chaperones and folding catalysts	178838,4667	182174	194353,6111	226966,0556	2889,264838	5120,936191	4702,19525	13964,98519	***0,000318325***	***0,001173007***	0,992376957	***0,028603546***
beta-Alanine metabolism	29350,86667	32772,27778	32879,88889	47579,38889	586,6158869	1611,572049	932,3139422	5556,503383	***0,000358657***	***0,001295752***	0,868968877	***0,005237174***
Pantothenate and CoA biosynthesis	114869,5333	101999	122891	131054,6111	1925,290951	3905,800472	3140,921876	7441,902661	***0,000361269***	***0,001295752***	0,254541824	0,604846799
Protein folding and associated processing	138119,3333	140213,7222	158765,7222	181990,3333	2740,962858	5109,728232	4528,580276	12871,33834	***0,000367087***	***0,001299296***	0,997647585	0,140345192
Tetracycline biosynthesis	26444,06667	19501,33333	26366,83333	24951,27778	1086,792132	1045,617462	1132,801782	1614,917606	***0,000403053***	***0,001408069***	***0,001774541***	0,848088332
Glycerophospholipid metabolism	102921,7333	101994,3333	116609,2222	132741,6111	1486,392051	4246,723153	3466,638173	8931,649667	***0,000409951***	***0,001413805***	0,999437853	0,159531593
Streptomycin biosynthesis	59829,13333	58457,5	64730	69786,77778	1425,609453	1956,276043	1580,668726	2569,866122	***0,000416429***	***0,001417967***	0,963736792	0,260985018
Lysine degradation	26070,66667	31395,44444	33043,5	45540,83333	766,630349	1737,637043	1446,464211	5537,751459	***0,000471283***	***0,001584691***	0,649614513	***0,027456168***
Lysine biosynthesis	155619,6	126812	155637,6111	162407,2778	2854,217172	6052,953396	3351,238951	9396,577346	***0,000498311***	***0,001654884***	***0,011488361***	0,860471068
Chlorocyclohexane and chlorobenzene degradation	3042	5477,388889	5353	7173,666667	306,287369	525,6452875	419,2909826	982,7933945	***0,000526591***	***0,001727475***	***0,04997023***	0,174653028
Butirosin and neomycin biosynthesis	16404,8	13924,22222	17750,11111	15832,38889	448,1901403	718,6966533	424,5013367	783,0563346	***0,000562897***	***0,001813558***	***0,040893589***	0,133040115
Biosynthesis of unsaturated fatty acids	26480,66667	36852,5	39386,44444	49830,38889	1381,1177	2552,846341	2506,994369	5867,255607	***0,000567101***	***0,001813558***	0,212789557	0,172918145
D-Alanine metabolism	22048,86667	17328,72222	21722,27778	21923,05556	618,8075543	953,8191337	525,9744508	1234,228389	***0,000573057***	***0,001813558***	***0,003273187***	0,998498715
Glycine, serine and threonine metabolism	155958,0667	149560,5556	169002,8889	195291,8889	1713,386122	5264,645428	3707,090018	13769,58867	***0,000582027***	***0,00181718***	0,945562907	0,090946169
Primary immunodeficiency	7958,2	7539,166667	6248,055556	9022,777778	271,0476711	284,5255453	288,8874475	739,4542483	***0,000587713***	***0,00181718***	0,921017454	***0,000239443***
Caprolactam degradation	5276,4	12036	10169,88889	18322,94444	610,1532189	1327,845382	934,4402641	3573,388596	***0,000602126***	***0,001840591***	0,120331423	***0,029249431***
PPAR signaling pathway	19537,6	19818,77778	21302,11111	22797,94444	369,3528162	479,248019	482,9248706	842,3927347	***0,000634014***	***0,001916288***	0,987550399	0,265160872
Sulfur relay system	41535,66667	49854,66667	50968,16667	68176,38889	1209,492442	2679,749555	2501,873622	7410,10115	***0,000647143***	***0,001934237***	0,55565673	***0,028608355***
Epithelial cell signaling in Helicobacter pylori infection	17056,53333	13895,22222	17379,72222	17999,22222	377,2678329	717,0641331	413,288168	1097,628753	***0,000689393***	***0,002037877***	***0,021978647***	0,929314478
Ether lipid metabolism	28,2	6,666666667	12,44444444	6,888888889	8,440943301	1,634993154	1,097299782	0,942423828	***0,000709165***	***0,002070359***	***0,001399452***	0,721613004
Selenocompound metabolism	69493,33333	66378,66667	75117,16667	87486,83333	756,6691273	2501,965324	1753,162085	6407,574004	***0,000715775***	***0,002070359***	0,938859109	0,087142923
Others	209080,4667	179438,5	225439,6667	240865,5556	4930,364532	7484,693923	5155,579022	17678,47268	***0,000725922***	***0,002077372***	0,227535865	0,720171688
Flavonoid biosynthesis	2109,533333	3059	3405,833333	3278,666667	174,2366717	286,9471496	194,6199959	201,1104142	***0,000751592***	***0,002128192***	***0,023076185***	0,976096618
Taurine and hypotaurine metabolism	23104,73333	23217,88889	26176,88889	28516,38889	464,3761967	1003,230885	770,8920259	1470,829714	***0,000775***	***0,002171615***	0,999844484	0,36627138
Two-component system	371909,2667	282365,9444	393166,6667	425527,2778	11732,49608	14174,34898	9623,559588	43428,90877	***0,000785335***	***0,002177888***	0,073389459	0,784404058
Butanoate metabolism	134839,2	106989,8333	138789,7778	158952,7778	2436,904321	5081,992018	3208,565361	15462,57584	***0,000841936***	***0,002310562***	0,134922098	0,348678014
Prostate cancer	8572,8	7165,555556	8854,444444	8520,166667	146,2020845	362,2625183	206,2280643	398,0444867	***0,000857618***	***0,002310562***	***0,012865947***	0,861103166
Amino acid related enzymes	277711,8667	245900,9444	288056,6667	306483,9444	4443,303079	9955,840642	6343,81806	15540,14665	***0,000858945***	***0,002310562***	0,160240018	0,576990085
Cell division	11969	13149,61111	11728,27778	15250,44444	309,800581	432,5851243	267,8832641	1107,145025	***0,000880797***	***0,002345886***	0,597737815	***0,001244821***
Chromosome	290972,4	243713,1667	288809	309857,7778	5572,624088	10308,34276	6528,603837	17691,74152	***0,000901362***	***0,00237712***	***0,030359123***	0,551222477
Glyoxylate and dicarboxylate metabolism	104571,2667	101583,2778	114554,0556	138028,9444	1599,201796	3584,769695	2924,280389	11916,20145	***0,000921831***	***0,0024075***	0,9899144	0,06527716
Aminoacyl-tRNA biosynthesis	224580,3333	186362,6667	228372,6667	229598,0556	5307,3825	9743,370522	5958,729674	10780,59201	***0,001002358***	***0,002571728***	***0,015261019***	0,9995944
Lipid metabolism	25863,4	17555,88889	26887,61111	29612,77778	809,5883245	1011,462889	656,6825027	3871,557995	***0,001009318***	***0,002571728***	***0,046689265***	0,795989584
Pores ion channels	58792,66667	80884,72222	73412,72222	107951,9444	3408,163451	3284,451933	3224,055781	14852,62961	***0,001013395***	***0,002571728***	0,262983812	***0,018387906***
Valine, leucine and isoleucine degradation	45992,13333	47027,83333	53364,88889	67098,16667	880,5423592	1793,793299	1680,889676	7130,819792	***0,001040399***	***0,002601397***	0,997901689	0,068392376
Pyruvate metabolism	206580,7333	175827,6667	217540,6111	240532,4444	3276,037904	6821,622677	5091,824768	19382,07222	***0,001054538***	***0,002601397***	0,238315679	0,449620733
Translation proteins	172071,7333	149418,1667	177914,8333	191122,2778	2978,924612	6398,372323	4285,522425	11212,78821	***0,001054727***	***0,002601397***	0,145402122	0,553134486
Citrate cycle (TCA cycle)	112201,2667	124486,1111	130983,3333	156910,0556	4065,548617	3802,050662	4970,775754	12688,8712	***0,001063768***	***0,002601397***	0,682537746	0,0752002
Nitrotoluene degradation	16607,13333	12364,38889	17712,61111	17726,72222	985,3819944	882,5782201	756,2406339	1467,687307	***0,001218825***	***0,002911674***	***0,038808241***	0,999999683
Xylene degradation	11962,8	4428,833333	9223,944444	10625	1115,639045	617,429106	752,1079287	2199,123887	***0,001220565***	***0,002911674***	***0,001493684***	0,875514374
Starch and sucrose metabolism	195104,6	151493,2222	185268,8333	199981,7778	5706,014665	4381,669948	4272,561757	15578,24364	***0,00122312***	***0,002911674***	***0,008208554***	0,647958942
Peroxisome	32146,26667	31855,05556	32406,11111	38277,16667	492,4055091	624,2131438	624,0978686	2256,480518	***0,001237468***	***0,00291999***	0,998627413	***0,008256075***
Bacterial secretion system	108160,2667	136927,8889	136345,5556	184710,6111	3580,448823	5999,307571	5943,175381	23114,13692	***0,001297866***	***0,003031314***	0,425739306	***0,042984023***
Peptidoglycan biosynthesis	151147,6	127316,8889	151666	157377,1111	2990,322121	5869,093769	3455,115596	7921,464303	***0,001307184***	***0,003031314***	***0,023825861***	0,882439914
One carbon pool by folate	119421,2	104411,1111	123169,6111	125479,6111	1661,079778	4498,934868	2630,134061	5433,709618	***0,001331876***	***0,003062176***	0,056621073	0,97532563
Transcription related proteins	661,4	2990,777778	2260,5	4540,722222	190,4678151	302,3105311	236,6989518	1177,899942	***0,001373438***	***0,003116466***	0,076248867	0,065467198
Synthesis and degradation of ketone bodies	7151,066667	5351,388889	7773,666667	8833,055556	290,2182671	528,4267508	291,3474444	988,2916549	***0,00137866***	***0,003116466***	0,196331143	0,604881855

Purine metabolism	397004,4667	376635,1667	411669,2778	463535,5	4260,508295	13628,59011	8506,691345	25046,61393	***0,00140182***	***0,003142414***	0,806847087	0,088473131
Limonene and pinene degradation	20843,93333	21589,88889	25004,27778	30447,88889	471,5691886	1201,356561	923,644231	3112,222721	***0,001421166***	***0,003159453***	0,992077056	0,145280438
General function prediction only	710288,6	635379,3333	735722,2222	796144,7778	11066,21721	22185,04312	16300,17314	45695,23797	***0,001447673***	***0,003192001***	0,271359421	0,417978265
Tryptophan metabolism	29366,46667	36135,27778	36958,55556	56414,11111	813,2021061	1994,03067	1530,771052	8898,916649	***0,001497459***	***0,003274931***	0,771114779	***0,025452627***
Base excision repair	83273,46667	81401,88889	90025,11111	97594,83333	1131,750679	3293,62772	2282,571844	4270,25285	***0,001536498***	***0,003333209***	0,975542458	0,299516157
Insulin signaling pathway	16862,6	13601,66667	17991,83333	17032,83333	823,2295508	630,3784422	798,9018494	969,5130078	***0,00156412***	***0,003349658***	***0,037538757***	0,830896009
Arachidonic acid metabolism	3526,333333	6300,222222	5803,277778	8500,555556	317,6855538	429,582002	514,5472457	1424,150485	***0,001568985***	***0,003349658***	0,110592497	0,100215525
Naphthalene degradation	31895,93333	27813,33333	35075,55556	35589,88889	857,1948518	1175,667464	1048,607478	2367,786605	***0,001591333***	***0,003370618***	0,266039299	0,994930365
Protein kinases	72148,93333	55475,33333	74127,44444	84515,38889	2292,135907	2724,183106	1452,302335	9185,963543	***0,00164545***	***0,003447058***	0,12705033	0,470664472
Carbon fixation in photosynthetic organisms	121277,7333	105600,8889	122292,0556	139893,1667	1968,606569	4431,787725	2567,015005	10187,21798	***0,00165305***	***0,003447058***	2,88537367	0,159858617
Energy metabolism	180695,8667	152715,3889	182859,4444	198345,3333	3212,791551	6303,652865	4290,264033	13384,85576	***0,001689687***	***0,003496352***	0,095342584	0,522701183
Glutathione metabolism	30354,13333	39743,05556	36126,5	54778,33333	651,7581853	1893,025678	1190,668921	8061,794685	***0,001755719***	***0,003605255***	0,457464259	***0,015827738***
Metabolism of cofactors and vitamins	19340,8	25192,94444	26379,88889	35732,94444	1016,172802	1507,913716	1648,941104	4921,331137	***0,002013449***	***0,004103166***	0,497524176	0,094384503
Carbon fixation pathways in prokaryotes	192844,4667	179428,6667	206414,3333	222259,4444	3952,770089	5886,99501	5938,721057	12434,70299	***0,002160491***	***0,004369715***	0,658262633	0,486549439
Transcription factors	369616,0667	239224	351385,5556	398744,8333	14108,10635	14996,01251	8502,099968	54503,46907	***0,002188834***	***0,004394002***	***0,02258448***	0,677214284
Pentose phosphate pathway	176374,4667	148730,0556	177370,3333	196790,5556	3815,624734	6736,101842	3631,030844	14446,46592	***0,002253372***	***0,004481421***	0,137206242	0,378791204
Vitamin B6 metabolism	37130,53333	33482,33333	37351,44444	44088,05556	827,4873031	1131,771008	861,2596309	3374,340641	***0,002288632***	***0,004481421***	0,571926867	0,069283415
Alanine, aspartate and glutamate metabolism	200144,3333	183692,6111	204581,8333	220190,8333	3000,10845	6129,010763	4266,383691	9924,230796	***0,002309881***	***0,004481421***	0,325701633	0,33001769
Thiamine metabolism	89463,4	81434,44444	92151,61111	102026,8333	1439,842167	3401,609255	2157,71906	5802,259362	***0,002316596***	***0,004481421***	0,456750235	0,235616611
Phosphonate and phosphinate metabolism	13528,53333	10368,27778	14069,27778	14659	541,030453	375,629309	397,6533765	1452,441559	***0,002318768***	***0,004481421***	0,057511648	0,957673758
Ribosome Biogenesis	252042,8667	227208,6111	256719,5556	288460,6111	4509,930726	9846,726787	6295,475885	17335,70005	***0,002332338***	***0,004481421***	0,419083733	0,175063948
Aminobenzoate degradation	29963,2	29305,27778	35899,94444	41219,05556	641,9687887	1153,086131	1164,527129	4340,548856	***0,002429282***	***0,004634587***	0,997703676	0,399966273
Pyrimidine metabolism	337215,4	284135	329879,2778	348778,2222	5605,844068	13721,08978	6946,176609	17756,14307	***0,002500068***	***0,004736044***	***0,024066822***	0,696079018
Cell cycle - Caulobacter	93565,46667	79818,22222	94590,05556	95759,72222	1697,198958	3644,129343	2153,715928	4483,277781	***0,002522934***	***0,00474594***	***0,027964176***	0,99407767
Glycolysis / Gluconeogenesis	212835,0667	189720,3889	222132,7222	248995,4444	3572,479276	7060,418932	5180,647693	18689,0235	***0,002570314***	***0,004789666***	0,466416216	0,291512466
DNA repair and recombination proteins	519459,9333	477465,1667	537479,5	581397,9444	6640,860254	19745,70432	11675,02226	28036,42026	***0,00258179***	***0,004789666***	0,436921998	0,35446983
Alzheimer's disease	9507,2	9418,722222	10954,16667	11970	257,8062432	414,2871648	429,7720649	821,0912753	***0,002916306***	***0,005362363***	0,999486105	0,532488788
Propanoate metabolism	96817	85014,94444	101544,0556	120045,0556	1911,438481	3490,872863	2612,484738	11617,16034	***0,002930362***	***0,005362363***	0,601589518	0,182424046
Prion diseases	1942,733333	1090,777778	1554,111111	2438,777778	175,4144064	194,1609661	141,2929994	404,3479262	***0,002964902***	***0,00538891***	0,112902382	0,07176965
Styrene degradation	6127,466667	5430,444444	8158,555556	11221,05556	254,9562403	393,7320032	398,4056561	2141,440393	***0,003132432***	***0,005655195***	0,976007298	0,236332916
Phenylalanine, tyrosine and tryptophan biosynthesis	154737	140002,2222	160955,8889	172704,1667	2703,104503	5941,794446	3743,321871	9225,94331	***0,003216802***	***0,005768798***	0,361113892	0,519046574
Bacterial invasion of epithelial cells	0,733333333	471,3333333	0,2777777778	438,9444444	0,206251503	158,3891955	0,108632485	158,193715	***0,003341657***	***0,005848746***	***0,035705611***	***0,041765897***
Amyotrophic lateral sclerosis (ALS)	4839,2	3701,777778	4350,611111	6402,5	254,5718011	299,2758095	270,2672018	894,0855673	***0,003372575***	***0,005848746***	0,446575957	***0,030866246***
Translation factors	98073,8	90381,44444	101638,7778	108271,0556	1175,12519	3905,668618	2228,883097	4576,855258	***0,00338426***	***0,005848746***	0,406943019	0,495925627
ABC transporters	717807,7333	484344,8333	694845,4444	794406,6111	24734,96595	31692,37693	16077,28358	107756,9821	***0,003389553***	***0,005848746***	***0,046148398***	0,632860624
Antigen processing and presentation	8119,2	6763,111111	8198,888889	7986,388889	163,8262494	360,6340449	206,3211357	387,0358374	***0,003391838***	***0,005848746***	***0,016452501***	0,958019512
Progesterone-mediated oocyte maturation	8119,2	6763,111111	8198,888889	7986,388889	163,8262494	360,6340449	206,3211357	387,0358374	***0,003391838***	***0,005848746***	***0,016452501***	0,958019512
Chloroalkane and chloroalkene degradation	36577,73333	28612,66667	36679,22222	39550,72222	1193,663243	1523,912127	972,2655322	3557,466391	***0,003584256***	***0,006141177***	0,061018596	0,769267566
Novobiocin biosynthesis	24287	22981,55556	24938,66667	28603	396,906874	921,1154087	592,4920892	1764,988843	***0,003616494***	***0,006157196***	0,845593913	0,085372386
Pathways in cancer	10187,86667	10727,16667	11550,77778	12366,72222	248,5425683	510,0998252	408,4233719	431,0358538	***0,003662354***	***0,006196057***	0,816040671	0,50777828
Stilbenoid, diarylheptanoid and gingerol biosynthesis	240,7333333	976,5	432	717,8888889	57,66045659	237,9983008	54,87817762	115,9325048	***0,003824767***	***0,00643039***	***0,004145219***	0,479574237
Peptidases	357884,8	317403,3333	360155,2778	397722,1111	5119,271563	14658,8816	6890,842905	23673,58386	***0,00394996***	***0,006599622***	0,264064958	0,286773023
Lysosome	31770,4	42312,88889	41946,94444	42758,77778	2650,861978	1947,760197	2070,271138	2552,330717	***0,004396127***	***0,007263525***	***0,012715709***	0,994144901
Signal transduction mechanisms	91879,26667	88024	99812,55556	114354,4444	1336,689705	4073,439538	2749,335106	8972,559684	***0,004401318***	***0,007263525***	0,96017352	0,216185651
Type II diabetes mellitus	8512,4	7908	8582,666667	9749,722222	154,0980764	282,5527078	202,9864125	577,7508951	***0,004444701***	***0,007290394***	0,65344596	0,097189814
Protein export	106646,6	99565,11111	108317,7222	117900,9444	1376,410614	3772,11337	2271,654244	5001,65782	***0,004625298***	***0,007540637***	0,515747582	0,213851652
Protein processing in endoplasmic reticulum	14488,86667	13928,33333	17123,5	15253	639,1892176	571,9248545	764,3784277	589,2756604	***0,004667762***	***0,007564024***	0,933032143	0,168933922
D-Glutamine and D-glutamate metabolism	25795	23660,27778	26617,05556	29225,55556	281,1022353	1162,206164	548,8916609	1602,53769	***0,004839654***	***0,00779561***	0,527967726	0,309492061
Replication, recombination and repair proteins	158300,6	155036,4444	179648,8333	186889,0556	3868,677334	7360,293492	6005,55361	9672,66112	***0,004964947***	***0,007949827***	0,989683912	0,889348692
Homologous recombination	168988,9333	148210,1111	167157,0556	176774,2778	2750,745027	6306,795863	3807,347488	7853,020966	***0,005484901***	***0,008730405***	0,071136565	0,623937895
Fatty acid metabolism	44217,66667	46649,16667	49079,44444	67508,5	925,5770692	2614,245596	1508,718578	9016,725067	***0,005605128***	***0,00886929***	0,98680957	***0,045942084***
Other transporters	54945,06667	46767,5	54909,44444	60476,33333	1274,418588	1387,580716	1382,20016	4649,591854	***0,005659372***	***0,008902755***	0,166725115	0,447394204
Nitrogen metabolism	125644,6	120658,9444	129014,3889	160504	1429,618703	3615,613076	2559,190514	15731,45909	***0,005752017***	***0,008959975***	0,97797715	***0,047563739***
Cyanoamino acid metabolism	58953,4	44862,55556	54166,83333	59241,38889	1509,647476	2580,991683	1660,470674	5065,819121	***0,005762363***	***0,008959975***	***0,016160138***	0,654551204
Cysteine and methionine metabolism	169780,3333	156193,8889	175709,7778	201790,7222	1766,371928	7004,901853	3712,992723	15498,37108	***0,005893498***	***0,009111212***	0,735313212	0,175809068
Glutamatergic synapse	20433,6	18785,66667	21903,44444	21726,11111	291,9750772	916,551975	452,5240486	805,84418	***0,006072398***	***0,009334143***	0,363269043	0,997722912
DDT degradation	51	115,8888889	26,27777778	108,4444444	29,68757957	17,97636227	5,483668895	25,35167321	***0,006343487***	***0,009695444***	0,152032768	***0,029948287***
Function unknown	258769,6667	257471,7778	287368,7222	359130,7222	5330,434931	10695,33274	7500,680105	41241,9675	***0,00643219***	***0,009775475***	0,999977883	0,112930421
Tyrosine metabolism	63899,4	63591,11111	68892,72222	84645,77778	1538,587165	2181,9084	2147,833932	8444,920228	***0,006707737***	***0,010136974***	0,999967368	0,087005229
NOD-like receptor signaling pathway	8331,333333	7087,388889	8423,833333	8243,055556	157,5114408	364,0566567	203,7387994	378,6862349	***0,006774758***	***0,010181061***	***0,030260042***	0,972724672
Nicotinate and nicotinamide metabolism	70904,73333	65189,33333	64053,66667	81705,83333	1688,046745	2937,345523	1817,079048	6551,935573	***0,007149536***	***0,010684584***	0,7501217	***0,009997472***
Other ion-coupled transporters	240667,5333	226886,5	249667,5556	310280,5	2261,822053	5612,691768	4876,319682	33387,82047	***0,0073044***	***0,010855711***	0,951396682	0,078447366
Tuberculosis	27409,8	29015,16667	31649,94444	32642,83333	560,6588233	1363,919523	1131,733001	1141,69447	***0,007404208***	***0,010943582***	0,761075752	0,920024654
Benzoate degradation	46975,66667	27554,77778	43000,61111	53640	1985,078913	1870,311268	1332,650603	9977,981793	***0,007726407***	***0,011357396***	0,074501366	0,492519972
DNA replication proteins	230656,0667	207422,4444	233459,8333	244175,5	2620,883572	8731,357134	4704,19939	10448,95478	***0,007791213***	***0,011390415***	0,163213073	0,740145435
Adipocytokine signaling pathway	10241,13333	12049,44444	10627,16667	11966,33333	434,4367877	448,7341034	260,984101	554,9582037	***0,007852971***	***0,011418644***	***0,030284749***	0,133466876
alpha-Linolenic acid metabolism	850,7333333	1786,388889	995,8333333	3874,5	61,23875731	387,3186115	60,64367427	1238,369087	***0,008295642***	***0,011997461***	0,778604308	***0,016467093***
Renin-angiotensin system	0,333333333	0,333333333	1,166666667	0,5	0,210818511	0,161690417	0,217682385	0,185239643	***0,008365625***	***0,012033974***	1	0,072914519
Nucleotide excision repair	70737,2	67371,27778	76694,27778	79727,72222	862,4478353	3285,066105	1902,393791	3605,609936	***0,008573677***	***0,012267655***	0,835303843	0,857028078
Pertussis	2075	9007,666667	1966	18137,16667	302,7241712	1790,70719	159,3875328	6915,241462	***0,0086203***	***0,012269104***	0,579883052	***0,013712809***
Drug metabolism - cytochrome P450	6106,533333	10159,11111	9514,388889	14872,38889	456,3744793	1108,674366	694,0419039	3038,159638	***0,009282181***	***0,013141614***	0,383177814	0,127241085
Biosynthesis of vancomycin group antibiotics	11765,73333	11564,11111	12747,72222	13392,61111	349,2745607	516,3176423	360,5883247	419,45197	***0,00934272***	***0,013158072***	0,987695161	0,690388114
Tropane, piperidine and pyridine alkaloid biosynthesis	21059,33333	21287,44444	22390,66667	25965,33333	354,0289021	435,2266949	571,750134	2024,384659	***0,010407811***	***0,014581776***	0,999037766	0,113410491
Mismatch repair	152039	133247,6667	153091,6111	157619,3889	2387,958584	6354,923482	3410,207148	7277,894214	***0,010470644***	***0,0145938***	0,0923634	0,931716985
Phosphotransferase system (PTS)	67521,8	83231,61111	52787,44444	129118,2778	3237,134033	9726,299668	1930,122014	30332,76508	***0,010932824***	***0,015159431***	0,916329192	***0,008457993***
Bladder cancer	1,2	403,6111111	0,4444444444	1021,277778	0,261861468	137,2787855	0,231818926	444,8483755	***0,011619695***	***0,015989617***	0,666620397	***0,017890296***
Phenylalanine metabolism	39937,26667	40800	45505,33333	56964,44444	1041,371451	1470,769726	1554,906418	7203,062776	***0,011650427***	***0,015989617***	0,998775637	0,165659738
RNA polymerase	28419,46667	26734,44444	29801,88889	31861,16667	348,7456962	1442,728368	660,3725028	1396,326577	***0,012216584***	***0,016620698***	0,725908573	0,544502034
Polyketide sugar unit biosynthesis	35230,4	33926,88889	36893,22222	39831,5	859,5502911	1589,574029	904,6126118	1544,228627	***0,012233822***	***0,016620698***	0,901276238	0,370998014
Dioxin degradation	12737,6	4674,277778	9999,277778	13305,33333	1194,930924	613,4685156	810,242015	3583,66809	***0,012551244***	***0,016966254***	***0,036947888***	0,637801223
Amino sugar and nucleotide sugar metabolism	283848,8667	268535,8333	285576,3889	316280,4444	5005,524609	9925,448437	5601,325219	15700,19491	***0,013004544***	***0,017491112***	0,739787069	0,151478032
Ribosome biogenesis in eukaryotes	8194,333333	8111,555556	8258,333333	9838,777778	160,6537142	396,1136549	216,3637098	667,9661089	***0,01312396***	***0,017563907***	0,999140496	***0,045569297***
Ribosome	418386,0667	373015,5556	423053,8333	441955,2222	6852,043732	18423,98341	10087,49157	19270,10499	***0,013218851***	***0,017603322***	0,177949619	0,805271748
Pentose and glucuronate interconversions	116300,3333	93164,94444	113119,0556	130901,8333	3374,288482	4178,297155	2405,995437	14482,93987	***0,013791699***	***0,0182757***	0,21171867	0,394544212
Galactose metabolism	146660,1333	127202,8889	138559,6111	154925,7778	4485,69096	5536,391291	3329,763591	9176,145662	***0,014399723***	***0,01898787***	0,142600482	0,232236084
Histidine metabolism	122152,8	111744,7222	124880,1111	131472,7222	1926,540782	5189,737821	2803,80702	5538,147347	***0,014481345***	***0,019002351***	0,351022722	0,687582941
Biosynthesis and biodegradation of secondary metabolites	12651,93333	14230,94444	15275,27778	24032,33333	340,3643351	799,2765784	506,1600912	4956,356678	***0,014725312***	***0,019228685***	0,976232409	0,087955725
Secretion system	251366,8667	240379,3333	276051,9444	351448,8333	6331,449473	14253,53452	8708,940922	46835,6798	***0,014954714***	***0,019433903***	0,991452233	0,168875543
Biosynthesis of ansamycins	23388,26667	17134,27778	20792,16667	25417,38889	776,2974974	1589,279521	539,4426514	3172,049462	***0,017430215***	***0,02254196***	0,117916699	0,304762142
Fructose and mannose metabolism	181666,0667	165196,5556	175577,5556	210130,6111	4256,058644	7380,177762	4011,413165	17617,58304	***0,018124601***	***0,023327835***	0,694004539	0,085436346
Inositol phosphate metabolism	23179,4	20797,55556	25682,94444	34487,5	697,3299677	658,6764418	547,6438986	6064,50176	***0,018867763***	***0,024168706***	0,956326137	0,206546298
Amino acid metabolism	49072,6	41537,38889	53253,5	57626,5	1093,284857	2079,950077	1368,146557	6579,074158	***0,018959104***	***0,024170611***	0,503551876	0,82903751
Type I diabetes mellitus	9338,866667	8988,166667	9493,055556	10350,22222	166,0609431	438,7186948	203,641176	329,8364974	***0,020009054***	***0,025388847***	0,868212494	0,209656629
Carbohydrate metabolism	36965,06667	29379,83333	36861,5	38556,83333	1527,290484	1442,521882	873,4887538	3730,622701	***0,020352548***	***0,025703453***	0,10094871	0,947026766
Shigellosis	0	0,388888889	0	0,666666667	0	0,200308404	0	0,268133222	***0,021007995***	***0,026407246***	0,424727844	***0,037314583***
RIG-I-like receptor signaling pathway	379,4666667	132,4444444	157,4444444	634,1111111	43,23874659	37,46189543	28,41283221	238,249881	***0,021493959***	***0,026892441***	0,54955811	***0,044402433***
Biosynthesis of siderophore group nonribosomal peptides	2433,4	5686	3649,611111	13734,61111	234,1624955	787,1679692	184,3454795	5243,099597	***0,023192126***	***0,028882786***	0,850571597	0,051242229
Terpenoid backbone biosynthesis	100578,1333	96209,88889	104326,8889	112257,1111	1430,33689	4592,127586	2668,385686	4858,618965	***0,02586297***	***0,032060548***	0,859006781	0,441602328
Metabolism of xenobiotics by cytochrome P450	5678,266667	8211,777778	7726,444444	12885,38889	403,1070692	990,2135623	502,6395961	3021,059242	***0,028961888***	***0,035737375***	0,731297834	0,132874209
Parkinson's disease	128	42,05555556	107,8888889	50,27777778	27,40038234	12,86746727	33,01385022	15,63760457	***0,029870731***	***0,036690533***	0,065549785	0,294858267
Vibrio cholerae pathogenic cycle	13901,33333	11660,05556	12582,11111	15675,27778	426,0678871	656,1191132	351,4676129	1744,382908	***0,032343043***	***0,039546721***	0,424813751	0,12943284
DNA replication	121050,9333	112834,5	122228,0556	129435,7222	1450,42217	4789,419498	2570,897668	5111,373766	***0,032867231***	***0,040005815***	0,483557348	0,554573686
Ascorbate and aldarate metabolism	25020,13333	23147,94444	25989,83333	42302,33333	780,1443387	1274,506167	705,155864	9711,376302	***0,033972949***	***0,041165421***	0,994408306	0,110502072
Electron transfer carriers	5599,866667	4677,888889	4705,611111	10256,55556	377,6167226	867,7558386	327,5355705	2847,608271	***0,03755918***	***0,045306814***	0,977573881	0,061791599
MAPK signaling pathway - yeast	8899,733333	7910,666667	9075,111111	9819,444444	321,3164212	539,9130649	307,6292107	589,9057653	***0,039978443***	***0,048009827***	0,471377228	0,661967791
Phenylpropanoid biosynthesis	33894	26175,55556	30774,94444	33110,94444	1301,935438	2174,323121	1316,770436	2787,377349	***0,042974488***	0,051378388	0,055551033	0,843278831
Polycyclic aromatic hydrocarbon degradation	17999,66667	18515,22222	19262,66667	20971,16667	436,3063872	939,2611599	606,0759945	868,8340743	***0,043168376***	0,051381828	0,966382286	0,37654592
Retinol metabolism	5685,533333	7084,388889	7720,611111	9811,055556	401,8241011	686,3726914	503,3300684	1690,264982	***0,044964731***	0,053284196	0,772622398	0,440911728
Nucleotide metabolism	10906,93333	11318,05556	11113	17719,22222	428,9673477	917,9549716	384,5011793	3877,890931	0,063908967	0,075401369	0,99911551	0,115150592
Colorectal cancer	7	2,333333333	10,72222222	7,611111111	2,081665999	0,812484288	3,065521478	2,38478139	0,071420492	0,082810829	0,490438921	0,753200093
Small cell lung cancer	7	2,333333333	10,72222222	7,611111111	2,081665999	0,812484288	3,065521478	2,38478139	0,071420492	0,082810829	0,490438921	0,753200093
Toxoplasmosis	7	2,333333333	10,72222222	7,611111111	2,081665999	0,812484288	3,065521478	2,38478139	0,071420492	0,082810829	0,490438921	0,753200093
Viral myocarditis	7	2,333333333	10,72222222	7,611111111	2,081665999	0,812484288	3,065521478	2,38478139	0,071420492	0,082810829	0,490438921	0,753200093
p53 signaling pathway	7	2,388888889	10,72222222	7,611111111	2,081665999	0,804963722	3,065521478	2,38478139	0,074308537	0,085789685	0,500548463	0,753015751
Influenza A	7,4	2,611111111	10,94444444	7,944444444	2,094891746	0,796802798	3,06623209	2,488499328	0,07932633	0,091191379	0,479885751	0,780389416
Glycan biosynthesis and metabolism	6066,933333	5977,888889	5416,5	10180,44444	491,1765512	740,2870574	503,5832405	2728,161722	0,098859829	0,113162954	0,999975919	0,115452326
Photosynthesis proteins	61755,2	62594,61111	61676,27778	70330,66667	1952,376167	3828,627608	2002,300389	3022,843138	0,101442873	0,115627681	0,997111682	0,142688869
Photosynthesis	59699,8	61778,11111	59817,22222	68377,22222	1834,891807	3871,648338	1970,722761	2962,116836	0,11202154	0,127146811	0,958645965	0,144772057
Photosynthesis - antenna proteins	0	0,444444444	0	0	0	0,304886374	0	0	0,122415268	0,138360114	0,229126022	1
D-Arginine and D-ornithine metabolism	1749,466667	1073,666667	1354,5	1233,944444	184,643901	256,524101	119,5540803	197,9048341	0,125115323	0,140820176	0,095522371	0,971049767
Proteasome	8139,666667	7620,277778	8212,555556	8702,222222	163,1412671	410,0541795	209,0455312	391,5859621	0,129569508	0,145225824	0,687303169	0,694824603
Vibrio cholerae infection	0,4	5,333333333	0,222222222	72,88888889	0,190237946	3,262983117	0,12924	52,05332164	0,166703423	0,186071456	0,999299848	0,227227982
Endocytosis	0	2	0,055555556	0,388888889	0	1,374368542	0,055555556	0,200308404	0,173182675	0,190926801	0,23948162	0,987312419

Fc gamma R-mediated phagocytosis	0	2	0,055555556	0,388888889	0	1,374368542	0,055555556	0,200308404	0,173182675	0,190926801	0,23948162	0,987312419
GnRH signaling pathway	0	2	0,055555556	0,388888889	0	1,374368542	0,055555556	0,200308404	0,173182675	0,190926801	0,23948162	0,987312419
Zeatin biosynthesis	8951,333333	8611,388889	8997,5	9354,333333	156,8758583	229,5018068	196,4666688	323,5467458	0,184593951	0,202676623	0,766114176	0,709222364
Restriction enzyme	27914	27102,33333	28868,72222	31633,72222	1114,6062	1139,542811	1135,843719	2340,600217	0,187565199	0,205101782	0,984107103	0,578786203
Primary bile acid biosynthesis	6622,8	7372	6839,222222	7297,333333	300,8354747	327,6364656	223,7668978	280,668192	0,211551689	0,23039435	0,278764058	0,654130623
Secondary bile acid biosynthesis	6622	7369,611111	6838,166667	7296,277778	300,8086245	327,6750955	223,9002353	280,5775999	0,212696716	0,230707325	0,280586324	0,654158422
Cardiac muscle contraction	22,33333333	14,33333333	35,27777778	25,5	6,381272202	4,718895406	9,546174526	7,558594641	0,238913252	0,258103071	0,876929241	0,772676247
Bacterial toxins	24692	23928,38889	26512,55556	26082,38889	342,1865406	1212,474788	664,4555254	1404,605762	0,259166476	0,278863128	0,957479588	0,9906492
Carbohydrate digestion and absorption	1745,133333	1692,722222	1304,777778	2531,5	235,6807741	254,2664678	183,8268857	798,3006881	0,280253322	0,300351169	0,999824384	0,226529585
Pathogenic Escherichia coli infection	0	0,555555556	0	0,555555556	0	0,381107967	0	0,381107967	0,283554356	0,302683023	0,529413233	0,488452459
Sphingolipid metabolism	52508	53939,88889	58162,83333	57251,5	2693,806206	2566,72807	1818,921255	3128,966075	0,383333942	0,407576404	0,981144283	0,994214487
Bisphenol degradation	16334,8	15451,33333	17617,77778	16785,11111	372,627916	780,5463061	402,4302607	1500,481846	0,399600086	0,423198516	0,911784905	0,914473812
Basal transcription factors	4,666666667	2,944444444	3,111111111	3,722222222	1,021980648	0,940977875	0,593477009	0,735671653	0,481641424	0,508084482	0,481139637	0,950232784
Glycosphingolipid biosynthesis - globo series	26496,66667	26978,55556	28036,61111	28947,66667	1328,282865	1463,603325	821,0423438	1398,003287	0,542031968	0,569557029	0,993798475	0,955205326
Linoleic acid metabolism	12396,46667	11173,72222	12368,33333	11916,38889	294,7850204	698,3247966	271,465979	1143,106746	0,601647449	0,629739937	0,65333815	0,969383955
Biosynthesis of type II polyketide products	0	0,055555556	0	0,055555556	0	0,055555556	0	0,055555556	0,611210833	0,629945265	0,787706039	0,762583393
Chronic myeloid leukemia	0	0,055555556	0	0,055555556	0	0,055555556	0	0,055555556	0,611210833	0,629945265	0,787706039	0,762583393
Notch signaling pathway	0	0,055555556	0	0,055555556	0	0,055555556	0	0,055555556	0,611210833	0,629945265	0,787706039	0,762583393
Wnt signaling pathway	0	0,055555556	0	0,055555556	0	0,055555556	0	0,055555556	0,611210833	0,629945265	0,787706039	0,762583393
Bile secretion	0,666666667	0,555555556	0,722222222	0,944444444	0,232310684	0,245511634	0,225868774	0,296738504	0,732354969	0,751921705	0,990410878	0,921361976
Other glycan degradation	71266,13333	68426,33333	72841,22222	71813,77778	3889,48894	4253,903035	2827,841577	5005,061681	0,880860931	0,886060406	0,963839634	0,997869241
Cell cycle	0,4	0,277777778	0,222222222	0,333333333	0,190237946	0,157711484	0,12924	0,161690417	0,882766502	0,886060406	0,951579006	0,957618539
Hepatitis C	0,4	0,277777778	0,222222222	0,333333333	0,190237946	0,157711484	0,12924	0,161690417	0,882766502	0,886060406	0,951579006	0,957618539
Measles	0,4	0,277777778	0,222222222	0,333333333	0,190237946	0,157711484	0,12924	0,161690417	0,882766502	0,886060406	0,951579006	0,957618539
Phagosome	0,4	0,277777778	0,222222222	0,333333333	0,190237946	0,157711484	0,12924	0,161690417	0,882766502	0,886060406	0,951579006	0,957618539
mTOR signaling pathway	0,4	0,277777778	0,222222222	0,333333333	0,190237946	0,157711484	0,12924	0,161690417	0,882766502	0,886060406	0,951579006	0,957618539
mRNA surveillance pathway	0,8	0,555555556	0,5	0,666666667	0,380475892	0,315422968	0,282958229	0,323380833	0,923826159	0,923826159	0,953897103	0,982261462
Adherens junction	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Aldosterone-regulated sodium reabsorption	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Biosynthesis of 12-, 14- and 16-membered macrolides	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Biosynthesis of type II polyketide backbone	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
CAM ligands	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Calcium signaling pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Cell cycle - yeast	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Cholinergic synapse	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Clavulanic acid biosynthesis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Complement and coagulation cascades	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Cytochrome P450	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Cytokine receptors	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Cytokine-cytokine receptor interaction	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Cytosolic DNA-sensing pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Dilated cardiomyopathy (DCM)	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
ECM-receptor interaction	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Endocrine and other factor-regulated calcium reabsorption	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
ErbB signaling pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Fat digestion and absorption	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Fc epsilon RI signaling pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Focal adhesion	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
G protein-coupled receptors	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
GTP-binding proteins	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Gastric acid secretion	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Glioma	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Glycan bindng proteins	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Glycosaminoglycan biosynthesis - chondroitin sulfate	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Glycosphingolipid biosynthesis - lacto and neolacto series	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Hedgehog signaling pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Hematopoietic cell lineage	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Hypertrophic cardiomyopathy (HCM)	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Isoflavonoid biosynthesis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Leishmaniasis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Leukocyte transendothelial migration	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Long-term depression	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Long-term potentiation	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
MAPK signaling pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Melanogenesis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Neuroactive ligand-receptor interaction	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Neurotrophin signaling pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Olfactory transduction	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Oocyte meiosis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Other types of O-glycan biosynthesis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Pancreatic cancer	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Pancreatic secretion	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Phototransduction	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Phototransduction - fly	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Regulation of actin cytoskeleton	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Rheumatoid arthritis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Salivary secretion	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Sesquiterpenoid biosynthesis	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Spliceosome	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
TGF-beta signaling pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Tight junction	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
VEGF signaling pathway	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Vascular smooth muscle contraction	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN
Vasopressin-regulated water reabsorption	0	0	0	0	0	0	0	0	NaN	NaN	NaN	NaN