TABLE S2: 2-MONTH MUCOSAL

feature	coef	pval	qval	description	category
PWY.6562	-0.3572907034	0.04338831714	0.1279711601	norspermidine biosynthesis	Polyamine-Biosynthesis
PWY.5180	-0.2454901222	0.07939533833	0.2020356375	toluene degradation I (aerobic) (via o-cresol)	AROMATIC-COMPOUNDS-DEGRADATION
PWY.5180	-0.2454901222	0.07939533833	0.2020356375	toluene degradation I (aerobic) (via o-cresol)	Super-Pathways
PWY.5182	-0.2454901222	0.07939533833	0.2020356375	toluene degradation II (aerobic) (via 4-methylcatechol)	AROMATIC-COMPOUNDS-DEGRADATION
PWY.5182	-0.2454901222	0.07939533833	0.2020356375	toluene degradation II (aerobic) (via 4-methylcatechol)	Super-Pathways
FAO.PWY	-0.2315183883	0.05864457784	0.1626864114	fatty acid β-oxidation I	Fatty-Acid-and-Lipid-Degradation
PWY.7094	-0.2295337934	0.05122863473	0.145378558	fatty acid salvage	Lipid-Biosynthesis
PWY.5747	-0.2222063201	0.06712086811	0.1795590102	2-methylcitrate cycle II	CARBOXYLATES-DEG
PWY0.42	-0.2164195962	0.07292118528	0.1909407595	2-methylcitrate cycle I	CARBOXYLATES-DEG
LEU.DEG2.PWY	-0.1926349302	0.06302355578	0.1709941436	L-leucine degradation I	Amino-Acid-Degradation
HSERMETANA.PWY	-0.1863974991	0.007714058653	0.0285705876	L-methionine biosynthesis III	Super-Pathways
HSERMETANA.PWY	-0.1863974991	0.007714058653	0.0285705876	L-methionine biosynthesis III	Amino-Acid-Biosynthesis
PWY.7254	-0.1825255872	0.06949279994	0.184261212	TCA cycle VII (acetate-producers)	TCA-VARIANTS
FASYN.INITIAL.PWY	-0.182079508	0.07966793885	0.2022151001	superpathway of fatty acid biosynthesis initiation (E. coli)	Super-Pathways
FASYN.INITIAL.PWY	-0.182079508	0.07966793885	0.2022151001	superpathway of fatty acid biosynthesis initiation (E. coli)	Lipid-Biosynthesis
PWY.6282	-0.1801554406	0.07847659866	0.2012949118	palmitoleate biosynthesis I (from (5Z)-dodec-5-enoate)	Lipid-Biosynthesis
PWY0.862	-0.1800522863	0.07850439508	0.2012949118	(5Z)-dodec-5-enoate biosynthesis	Lipid-Biosynthesis
PWY.5989	-0.1798270195	0.07856464518	0.2012949118	stearate biosynthesis II (bacteria and plants)	Lipid-Biosynthesis
PWY.7664	-0.1773358678	0.07719313923	0.1993918725	oleate biosynthesis IV (anaerobic)	Lipid-Biosynthesis
PWY.5920	-0.1761590811	0.04391663539	0.1289859221	superpathway of heme biosynthesis from glycine	Super-Pathways
PWY.5920	-0.1761590811	0.04391663539	0.1289859221	superpathway of heme biosynthesis from glycine	Cofactor-Biosynthesis
PWYG.321	-0.1756829287	0.07976160442	0.2022151001	mycolate biosynthesis	Lipid-Biosynthesis
P105.PWY	-0.1680747992	0.0243160698	0.07831862974	TCA cycle IV (2-oxoglutarate decarboxylase)	TCA-VARIANTS
UBISYN.PWY	-0.1674300301	0.08860575466	0.220228013	superpathway of ubiquinol-8 biosynthesis (prokaryotic)	Super-Pathways
UBISYN.PWY	-0.1674300301	0.08860575466	0.220228013	superpathway of ubiquinol-8 biosynthesis (prokaryotic)	Cofactor-Biosynthesis
PWY.5971	-0.1674273311	0.06947478374	0.184261212	palmitate biosynthesis II (bacteria and plants)	Lipid-Biosynthesis
PWY.5855	-0.1673666099	0.08915078403	0.2202548782	ubiquinol-7 biosynthesis (prokaryotic)	Cofactor-Biosynthesis
PWY.5856	-0.1673666099	0.08915078403	0.2202548782	ubiquinol-9 biosynthesis (prokaryotic)	Cofactor-Biosynthesis
PWY.5857	-0.1673666099	0.08915078403	0.2202548782	ubiquinol-10 biosynthesis (prokaryotic)	Cofactor-Biosynthesis
PWY.6708	-0.1673666099	0.08915078403	0.2202548782	ubiquinol-8 biosynthesis (prokaryotic)	Cofactor-Biosynthesis
P23.PWY	-0.1650890467	0.02053571982	0.06780662203	reductive TCA cycle I	C1-COMPOUNDS
PWY.5918	-0.1645397294	0.09081634786	0.2241061463	superpathay of heme biosynthesis from glutamate	Cofactor-Biosynthesis
PWY.5918	-0.1645397294	0.09081634786	0.2241061463	superpathay of heme biosynthesis from glutamate	Super-Pathways
PWY.6519	-0.1601092137	0.07543829173	0.1963078223	8-amino-7-oxononanoate biosynthesis I	Cofactor-Biosynthesis
PWY.5345	-0.1532502485	0.05747562041	0.1598775944	superpathway of L-methionine biosynthesis (by sulfhydrylation)	Amino-Acid-Biosynthesis
PWY.5345	-0.1532502485	0.05747562041	0.1598775944	superpathway of L-methionine biosynthesis (by sulfhydrylation)	Super-Pathways
PWY.3781	-0.1520513943	0.04722216692	0.1356587559	aerobic respiration I (cytochrome c)	Respiration
PWY.3781	-0.1520513943	0.04722216692	0.1356587559	aerobic respiration I (cytochrome c)	Electron-Transfer
BIOTIN.BIOSYNTHESIS.PWY	-0.1507405079	0.0746198649	0.1944190028	biotin biosynthesis I	Cofactor-Biosynthesis
BIOTIN.BIOSYNTHESIS.PWY	-0.1507405079	0.0746198649	0.1944190028	biotin biosynthesis I	Super-Pathways
PWY.4361	-0.1251996515	0.04507548637	0.1314701686	S-methyl-5-thio-α-D-ribose 1-phosphate degradation	Amino-Acid-Biosynthesis

PWY.4361	-0.1251996515	0.04507548637	0.1314701686	S-methyl-5-thio-α-D-ribose 1-phosphate degradation	NUCLEO-DEG
PWY.7527	-0.1238785711	0.045070561	0.1314701686	L-methionine salvage cycle III	Super-Pathways
PWY.7527	-0.1238785711	0.045070561	0.1314701686	L-methionine salvage cycle III	Amino-Acid-Biosynthesis
PWY.7211	-0.117624966	0.0574798018	0.1598775944	superpathway of pyrimidine deoxyribonucleotides de novo biosyn	Nucleotide-Biosynthesis
PWY.7211	-0.117624966	0.0574798018	0.1598775944	superpathway of pyrimidine deoxyribonucleotides de novo biosyn	Super-Pathways
PWY.7211	-0.117624966	0.0574798018	0.1598775944	superpathway of pyrimidine deoxyribonucleotides de novo biosyn	Nucleotide-Biosynthesis
MET.SAM.PWY	-0.1052499717	0.03768726316	0.1138751836	superpathway of S-adenosyl-L-methionine biosynthesis	Super-Pathways
HOMOSER.METSYN.PWY	-0.1050116684	0.04572973411	0.132852915	L-methionine biosynthesis I	Amino-Acid-Biosynthesis
PWY0.781	-0.08419247893	0.01697810603	0.05713785684	aspartate superpathway	Super-Pathways
PWY.5347	-0.08327932348	0.04823468178	0.1376261301	superpathway of L-methionine biosynthesis (transsulfuration)	Super-Pathways
PWY.5347	-0.08327932348	0.04823468178	0.1376261301	superpathway of L-methionine biosynthesis (transsulfuration)	Amino-Acid-Biosynthesis
PRPP.PWY	-0.07838320487	0.08325919669	0.2093943869	superpathway of histidine, purine, and pyrimidine biosynthesis	Super-Pathways
PWY.7539	-0.0756711268	0.09604189297	0.2339767694	6-hydroxymethyl-dihydropterin diphosphate biosynthesis III (Chla	Cofactor-Biosynthesis
P4.PWY	-0.06874926073	0.0468231943	0.1352526933	superpathway of L-lysine, L-threonine and L-methionine biosynth	Super-Pathways
P4.PWY	-0.06874926073	0.0468231943	0.1352526933	superpathway of L-lysine, L-threonine and L-methionine biosynth	Amino-Acid-Biosynthesis
PWY.7663	0.0241476503	0.0982359006	0.2373940061	gondoate biosynthesis (anaerobic)	Lipid-Biosynthesis
PWY.2942	0.02594394824	0.07731874524	0.1994709644	L-lysine biosynthesis III	Amino-Acid-Biosynthesis
PWY.5973	0.02711215681	0.08848627501	0.220228013	cis-vaccenate biosynthesis	Lipid-Biosynthesis
PWY.5097	0.02836571282	0.07810945032	0.2010169677	L-lysine biosynthesis VI	Amino-Acid-Biosynthesis
PWY.7219	0.02983416912	0.1008275238	0.2421055881	adenosine ribonucleotides de novo biosynthesis	Nucleotide-Biosynthesis
PWY.6386	0.03225171785	0.1003516908	0.2416726498	UDP-N-acetylmuramoyl-pentapeptide biosynthesis II (lysine-cont	Cell-Structure-Biosynthesis
PEPTIDOGLYCANSYN.PWY	0.03297105883	0.1031997572	0.2459926108	peptidoglycan biosynthesis I (meso-diaminopimelate containing)	Super-Pathways
PEPTIDOGLYCANSYN.PWY	0.03297105883	0.1031997572	0.2459926108	peptidoglycan biosynthesis I (meso-diaminopimelate containing)	Cell-Structure-Biosynthesis
THRESYN.PWY	0.03540821719	0.06111162697	0.1666786203	superpathway of L-threonine biosynthesis	Amino-Acid-Biosynthesis
THRESYN.PWY	0.03540821719	0.06111162697	0.1666786203	superpathway of L-threonine biosynthesis	Super-Pathways
GLYCOGENSYNTH.PWY	0.03776749024	0.09336619797	0.2285186664	glycogen biosynthesis I (from ADP-D-Glucose)	Carbohydrates-Biosynthesis
PWY.6123	0.03853258501	0.05305124528	0.1495404229	inosine-5'-phosphate biosynthesis I	Nucleotide-Biosynthesis
PWY.6121	0.03882833633	0.04252960828	0.1259692206	5-aminoimidazole ribonucleotide biosynthesis I	Nucleotide-Biosynthesis
PWY.6122	0.04246155463	0.04699095556	0.1353648926	5-aminoimidazole ribonucleotide biosynthesis II	Nucleotide-Biosynthesis
PWY.6277	0.04246155463	0.04699095556	0.1353648926	superpathway of 5-aminoimidazole ribonucleotide biosynthesis	Nucleotide-Biosynthesis
PWY.6277	0.04246155463	0.04699095556	0.1353648926	superpathway of 5-aminoimidazole ribonucleotide biosynthesis	Super-Pathways