```
Amino-acid biosynthesis; L-tryrebnine 'degradation', u.g. propah

Amino-acid biosynthesis: L-tryrebohan

Amino-acid biosynthesis: L-tryrebohan

Amino-acid biosynthesis: L-asparagine b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cofactor_biosynthesis;thiamine_diphosphate_bamino_acid_degradation;L_arginine_degradation_via_AST_pathway_b_diutamate_an

Polyo_metabolism;glycero_degradation_via_glycero(Amino_2-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation_via_glycero(Amino_1-degradation
                                                                                                                                                                                                                                 Purine_metabolism;IMP_biosynthesis_via_de_novo_pathway;5-amino-1-(5-phospho-D-ribosyl)imidaz
Carbohydrate_acid_metabolism;2-dehydro-3-deoxy-D-gluconate_degradation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Amino-acid_degradation_t-histories_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_triventer_t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Amino-acid_degradation;L-threonine_de
Cofactor_biosynthesis;adenosylcobalamin_biosynthesis;cob
Carbonydrate_degr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Amino-acid degradation: _qlutamate degradation via mesaconate p
Cofactor_biosynthesis;7,8-dlivdroneoptein triphosphate biosynthesis
Cofactor biosynthesis;tetafiydrofolate
Carbohydrate_degradation;L-arabinose_degradation;val L-ribulose_D-xylulose_S
Amino-acid_biosynthesis;L-isoleucine_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Amino-acid_biosynthesis;L-lysine_biosynthesis_via_DAP_pathway;(S)-tetrah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cofactor_biosynthesis;NAD(+) t
Purine_metabolism;XMI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Polyol_metabolism;glycerol_degradation
                                                                                                                                                                                                                                                                                                                                                                                       Cofactor_biosynthesis;tetrahydrofolate_biosynthesis;7,8-dihydrofolate_biosynthesis;7,8-dihydrofolate_biosynthesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolatesis;10-dipolates
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Carbohydrate_metabolism:tricarbo
                                                                                                                                                                                                                                                                                                                                                                                                                                            Cofactor_biosynthesis;tetrahydrofolate_biosynthesis;2-amino-4-hydroxy-6-hydroxymethyl-7,8-dihydrotypt-dihe
Amino-acid_degradation;D-glasin
Cofactor_biosynthesis;tetrahydrofolate_biosynthesis;2-amino-4-hydroxy-6-hydroxymethyl-7,8-dihydrotypt-dihe
Amino-acid_degradation;L-lysine_dedratation_vi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Carbohydrate_degradation;L-rhampose_degradation;glycerone_bhoSphate_trom_L-rhamnose_degradation;glycerone_bhoSphate_trom_L-rhamnose_degradation;glycerone_bhoSphate_trom_L-rhamnose_degradation_bhoSphate_trom_L-rhamnose_degradation_bhoSphate_trom_L-rhamnose_degradation_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphate_bhoSphat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Amino-acid_degradation;L-arginine_degradation_via_AST_path
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cofactor_biosynthesis;NAD(+)_biosynthesis;NAD(+)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cofactor

Nucleotide-sugar biosynthesis; d1 DP 4-
Carbohydrate metabolism; tricarboxylic aci
Porphyrin-containing_compound_metabolism; heme_C_bio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cofactor_biosynthesis;adenosylcobalamin_biosynthesis;cob(II)yrinate_a.c-diamide_
Purine_metabolism:XMP_biosynthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Amino-acid biosynthesis via Co
Amino-acid biosynthesis; Lihreonine blosynthesis; Lihreonine blosynthesis; Pyrimidine metabolism: Nydrogen sullide Pyrimidine metabolism: CTP biosynthesis via salatibolism: Calacidad devardati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pyrimidine metabolism; CTP bi
Carbohydrate_acid_metabolism; G
Bacte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amino-acid_biosynthesis;L-arginin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Amino-acid_biosynthesis;L-methionine_biosynthesis_via_di_nov
Porphyrin-containing_compound_metabolism;protoporphyrin-IX
Polyol_metabolism;divcerdi_ferm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Amine 
Carbohydrate_metabolism;D–sorbitol_degradation;D–fructos 
Bacte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bacteria
Purine, and
Amine, and polyamine degradationputrescine deg
Glycolipid_biosynthesis;lipid_IV(A)_biosynthesis;lipid_IV(A)_from_(3R)-3-hydroxytetradecantyr-[aby--tarrier-protection]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Amino-acid_biosynthesis;L-isoleucine_bios
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Polyol_metabolism;(R,R)-butan Lipid metabolism;(R,R)-butan Lipid metabolism; Carrochydrate, acid_metabolism;D-compound metabolism;D-compound metabolism;D-compound metabolism;D-compound metabolism;D-compound metabolism;D-compound metabolism;D-compound metabolism;IMP_biosynthesis; via_de_novo_pathway;N(1)-(5-phospho-D-ribosy)(B)-biosynthesis; via_de_novo_pathway;N(1)-(5-phospho-D-ribosy)(B)-biosynthesis; via_de_novo_pathway;N(1)-(5-phospho-D-ribosy)(B)-compound metabolism;IMP_biosynthesis; via_de_novo_pathway;N(1)-(5-phospho-D-ribosy)(B)-compound metabolism;IMP_b
Porphyrin_containing_compound
Purine_metabolism;IMP_biosynthesis_via_de_novo_pathway;5-formamido-1-(5-phospho-D-ribosyf)imidazole-4-carboxamide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Amino-acid_degradation;L
Organosultur_degrada
Carbohydrate_degradation;pentose_ph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Carbohydrate_degradation;per
Carbohydrate_degradation;per
                                                                                                                                                                                                                                                 Purine_metabolism;IMP_biosynthesis_via_de_novo_pathway;5-amino-1-(5-phospho-D-ribosyl)midorate_metabolism;D-tagatose_6-phosphate_degradation;D-qly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Amino-acid biosynthesis L-threonine biosynthesis Aromatic_compound_metabolism;4-hydroxyphenylacetate_degradation;pyruvate_and_succinate_Semiladehy_pyruvate_ing_multiple_biosynthesis_va_s Carbohydrate_degradation;gytoolysis;pyruvate_from_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cofac_Cof
                                                                                                                                                                                                                                                                                                                                                                                                 Carbohydrate_degradation;2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_degradation;D-glyceraldehyde_3-phosphate_and_acetaldehyde_from_2-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetaldehyde_from_3-deoxy-D-ribose_1-phosphate_and_acetald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cofactor_biosynthesis;riboflavin_biosynthesis;5-amino_6-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Porphyrin-containing_compound_metabolism;protoporphyrin-IX_biosynthesis;protoporphyrinogen-IX_Amino-acid_biosynthesis;L-asparagine_biosynthesis;L-aspara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -5 0
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Amino-acid\_biosynthesis;L-methionine\_bi Amino-acid Cofactor\_biosynth

Glycolipid\_biosynthesis;lipid\_IV(A)\_biosynthesis;lipid\_IV(A)\_from Amino-acid\_biosynthesis;l\_-lysine\_biosynthesis\_via\_Amino-acid\_biosynthesis\_IV Metabolic\_intermediate\_biosynthesis Cofactor\_biosynthesis;riboflavin\_bio Metabolic\_intermediate\_biosynthesis;5-phospho-alpha-D-ribose\_1-diphosphate\_biosynthesis;riboflavin\_bio soprenoid\_biosynthesis;isopentenyi\_diphosphate\_biosynthesis\_via\_DXP

Amino-acid\_biosynthesis;L-arginine\_bio

Carbohydrate\_biosynthesis;3-deoxy-D-manno-octulosonate\_biosynthesis;3-deoxy-D-manno-octulosonate\_biosynthesis;1-serine\_biosynthesis;