Log2(Fitness

-0.6

ABC transporters Aminosugars Arginine; urea cycle, polyamines Aromatic amino acids and derivatives Branched-chain amino acids

Central carbohydrate metabolism Cofactors, Vitamins, Prosthetic Groups, Pigments – no subcategory **DNA** repair Electron accepting reactions Fatty acids Glutamine, glutamate, aspartate, asparagine; ammonia assimilation Histidine Metabolism Membrane Transport - no subcategory Gene Transfer Agent (GTA)

Osmotic stress Metabolism of central aromatic intermediates Monosaccharides Oxidative stress Phages, Prophages Phosphorus Metabolism – no subcategory Potassium metabolism – no subcategory

Subcategory

Gene Knockout Fitness by Biological Function Purines Regulation and Cell signaling - no subcategory Respiration - no subcategory RNA processing and modification - no subcategory Protein secretion system, Type II Protein and nucleoprotein secretion system, Type IV Stress Response

Proline and 4-hydroxyproline

Sugar alcohols

Sulfur Metabolism - no subcategory **Tetrapyrroles** 

TRAP transporters