

**'Carbon Source is D-Glucose'**

'glucose 6-phosphate dehydrogenase'

'glucose-6-phosphate isomerase'

'6-phosphogluconolactonase'

**'Carbon Source is Pyruvate'**

'4-aminobutyrate transaminase'

'acyl-CoA dehydrogenase (decanoyl-CoA)'

'acyl-CoA dehydrogenase (dodecanoyl-CoA)'

'L-aspartase'

'aspartate transaminase'

'citrate synthase'

'Cysteine Desulfhydrase'

'cytochrome oxidase bo3 (ubiquinol-8: 4 protons) (periplasm)'

'3-hydroxyacyl-CoA dehydratase (3-hydroxydecanoyl-CoA)'

'3-hydroxyacyl-CoA dehydratase (3-hydroxydodecanoyl-CoA)'

'fructose-bisphosphatase'

'glucose 6-phosphate dehydrogenase'

'glutamate dehydrogenase (NADP)'

'Glycolate oxidase'

'3-hydroxyacyl-CoA dehydrogenase (3-oxodecanoyl-CoA)'

'3-hydroxyacyl-CoA dehydrogenase (3-oxododecanoyl-CoA)'

'hypoxanthine dehydrogenase'

'3-ketoacyl-CoA thiolase'

'3-ketoacyl-CoA thiolase'

'pyruvate dehydrogenase'

'6-phosphogluconolactonase'

'phosphoenolpyruvate synthase'

'triose-phosphate isomerase'

### **'Carbon Source is Glycerol'**

'glycerol-3-phosphate dehydrogenase (NADP)'

'Glycerol dehydrogenase'

'glycerol kinase'

### **'Carbon Source is Acetate'**

' 2',3'-cyclic-nucleotide phosphodiesterase (UMP)  
(periplasm)'

'acyl-[acyl-carrier-protein] synthetase (n-C14:1)'

'ATP synthase (four protons for one ATP) (periplasm)'

'Carbamate kinase'

'CTP synthase (glutamine)'

'cytochrome oxidase bo3 (ubiquinol-8: 4 protons)  
(periplasm)'

'cytidine deaminase'

'fatty-acid-CoA thioesterase (tetradecenoate)'

'fumarase'

'glycerate kinase'

'Glycolate oxidase'

'malate synthase'

'malic enzyme (NAD)'

'pyruvate dehydrogenase'

'pyruvate formate lyase'

'pyrimidine-nucleoside phosphorylase (uracil)'

'L-serine via sodium symport (periplasm)'

'succinate-semialdehyde dehydrogenase (NAD)'

**'Carbon Source is D-ribose'**

'acyl-CoA dehydrogenase (butanoyl-CoA)'

'acyl-CoA dehydrogenase (hexanoyl-CoA)'

'acyl-CoA dehydrogenase (octanoyl-CoA)'

' 3-hydroxyacyl-CoA dehydratase (3-hydroxybutanoyl-CoA)'

' 3-hydroxyacyl-CoA dehydratase (3-hydroxyhexanoyl-CoA)'

' 3-hydroxyacyl-CoA dehydratase (3-hydroxyoctanoyl-CoA)'

' 3-hydroxyacyl-CoA dehydrogenase (acetoacetyl-CoA)'

' 3-hydroxyacyl-CoA dehydrogenase (3-oxohexanoyl-CoA)'

'ribokinase'

**'Carbon Source is D-fructose'**

'acetylglutamate kinase'

'N-acetylglutamate synthase'

'N-acetyl-g-glutamyl-phosphate reductase'

'ATP synthase (four protons for one ATP) (periplasm)'

'Carbamate kinase'

'CTP synthase (glutamine)'

'Dihydroxyacetone phosphotransferase'

'fructose-1-phosphate kinase'

'glycerol-3-phosphate dehydrogenase (ubiquinone-8)'

'glycine C-acetyltransferase'

'glucose-6-phosphate isomerase'

'triose-phosphate isomerase'

**'Carbon Source is D-sorbitol'**

'glycerol-3-phosphatase'

'lactaldehyde dehydrogenase'

'L-Lactate dehydrogenase (ubiquinone)'

'sorbitol-6-phosphate dehydrogenase'