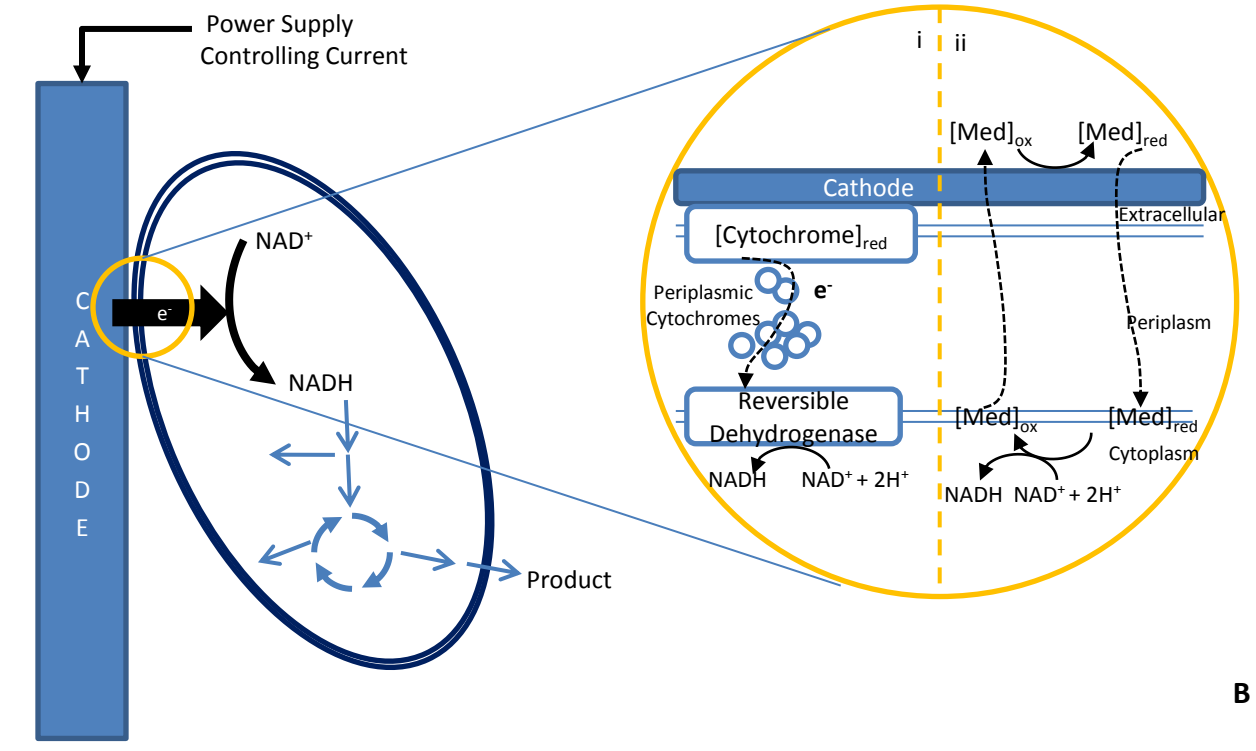
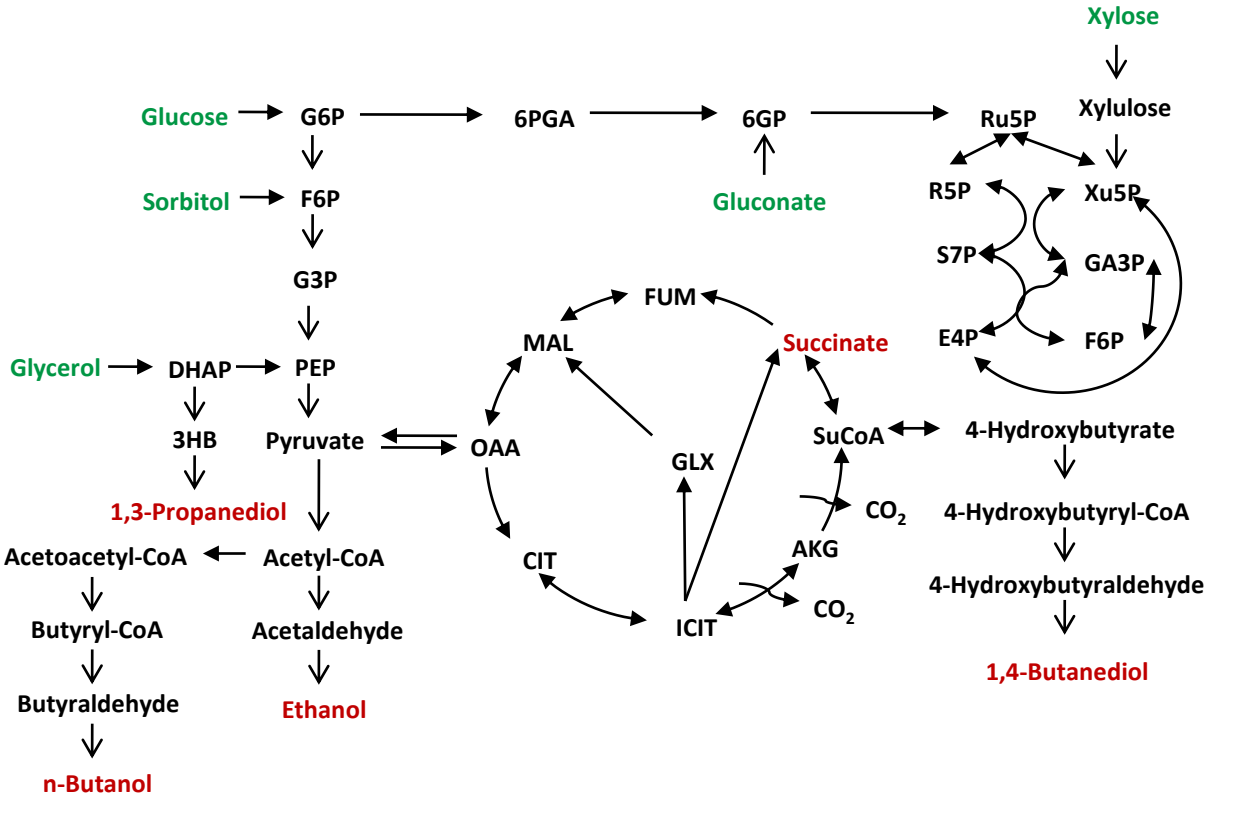

A
Power Supply
Controlling Current
CATHODE
e-
NAD+
NADH
Product
i
ii
[Med]ox
[Med]red
Cathode
Extracellular
[Cytochrome]red
Periplasmic
Cytochromes
e-
Periplasm
Reversible
Dehydrogenase
[Med]ox
[Med]red
Cytoplasm
NADH
NAD+ + 2H+
NADH
NAD+ + 2H+


B
Xylose
Xylulose
Glucose
G6P
6PGA
6GP
Ru5P
Sorbitol
F6P
Gluconate
R5P
Xu5P
S7P
GA3P
G3P
FUM
MAL
Succinate
E4P
F6P
Glycerol
DHAP
PEP
3HB
Pyruvate
OAA
SuCoA
4-Hydroxybutyrate
GLX
1,3-Propanediol
CO2
4-Hydroxybutyryl-CoA
Acetoacetyl-CoA
Acetyl-CoA
CIT
AKG
4-Hydroxybutyraldehyde
Butyryl-CoA
Acetaldehyde
ICIT
CO2
1,4-Butanediol
Butyraldehyde
Ethanol
n-Butanol