

End Product Formation

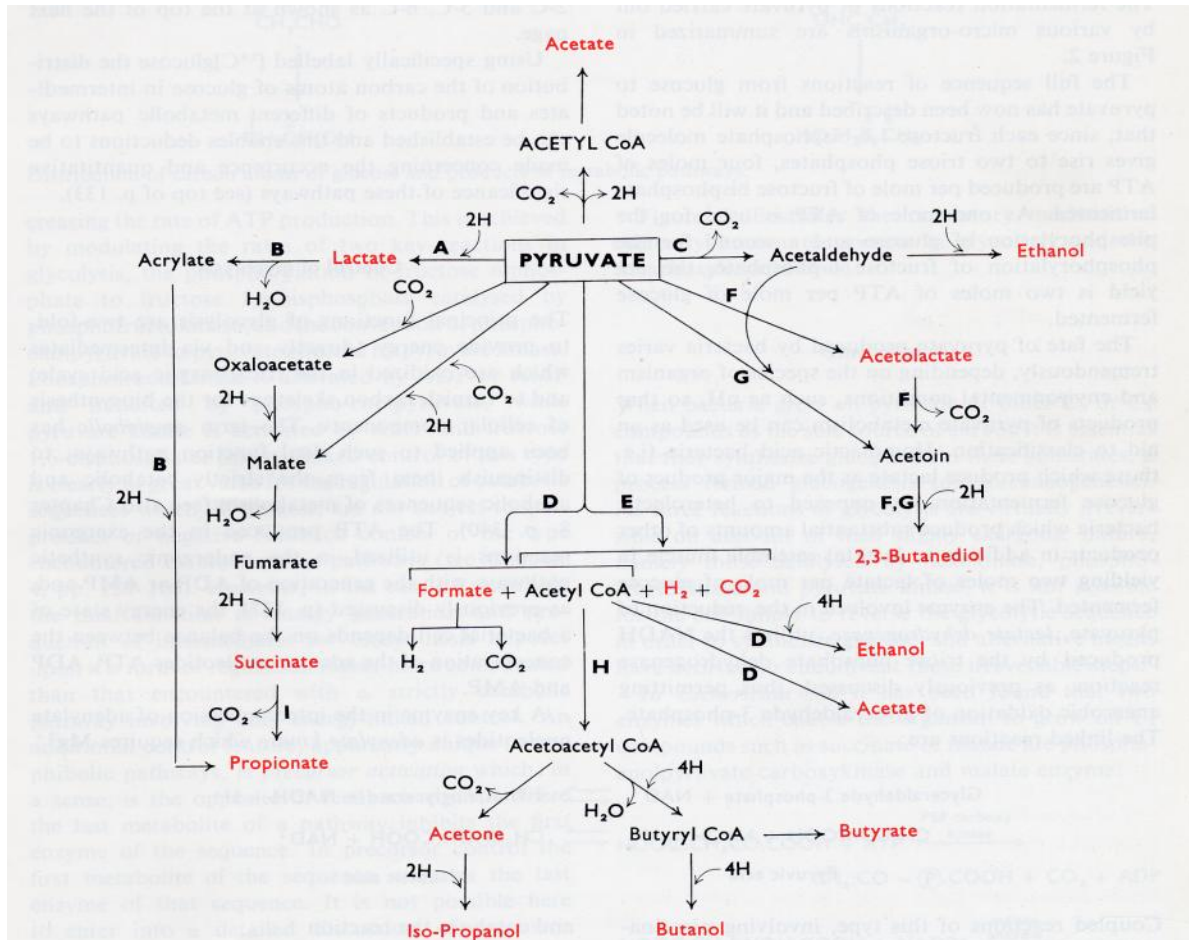


Figure 2. Bacterial fermentation products of pyruvate. Pyruvate formed by the catabolism of glucose is further metabolized by pathways which are characteristic of particular organisms and which serve as a biochemical aid to identification. End products of fermentations are indicated in red.

- | | |
|--|---|
| A Lactic acid bacteria (<i>Streptococcus</i> , <i>Lactobacillus</i>) | E Clostridia |
| B <i>Clostridium propionicum</i> | F Klebsiella |
| C Yeast, <i>Acetobacter</i> , <i>Zymomonas</i> , <i>Sarcina ventriculi</i> ,
<i>Erwinia amylovora</i> . | G Yeast |
| D Enterobacteriaceae (coli-aerogenes) | H Clostridia (butyric, butylic organisms) |
| | I Propionic acid bacteria |

Phosphoketolase Pathway

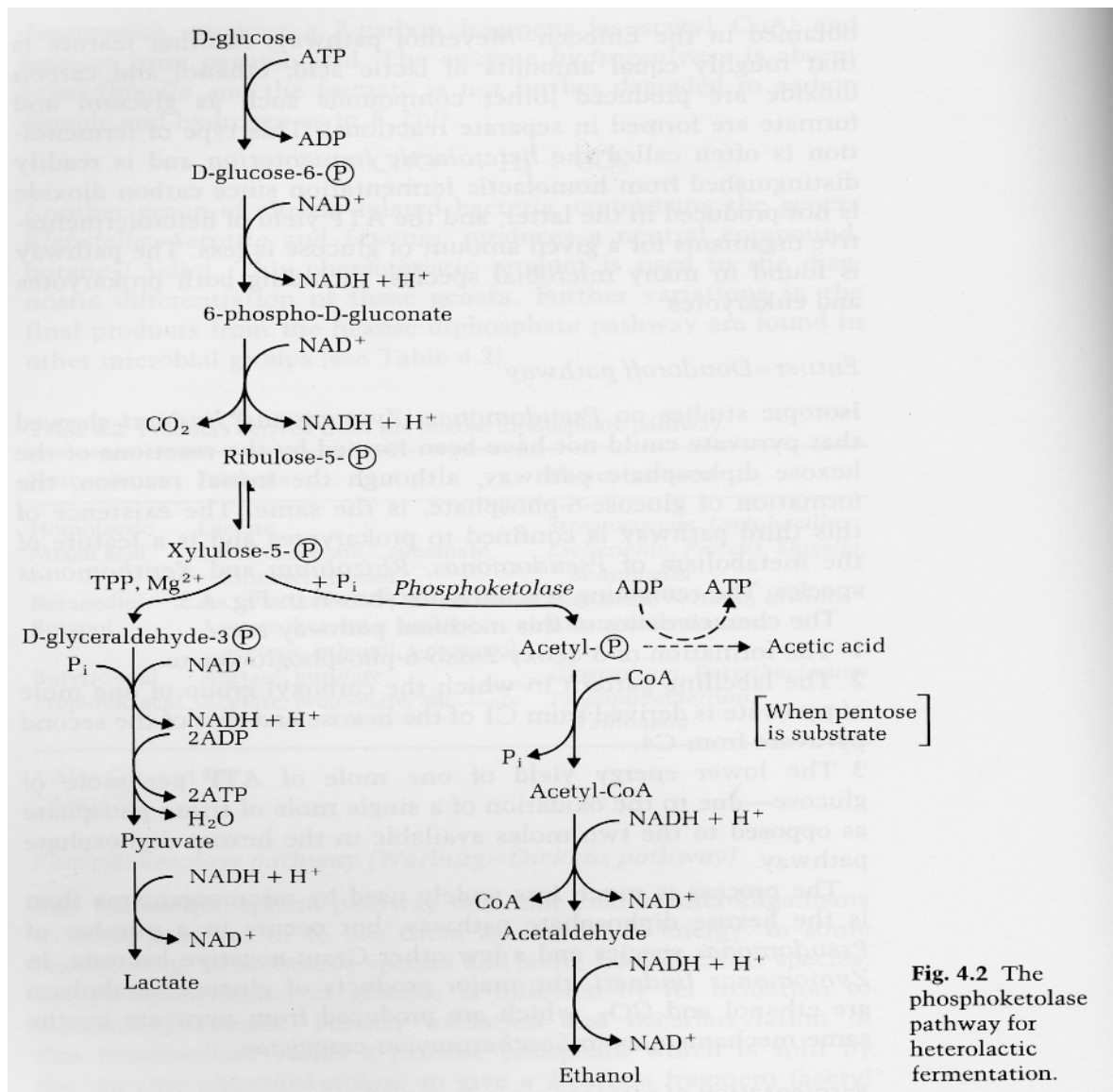
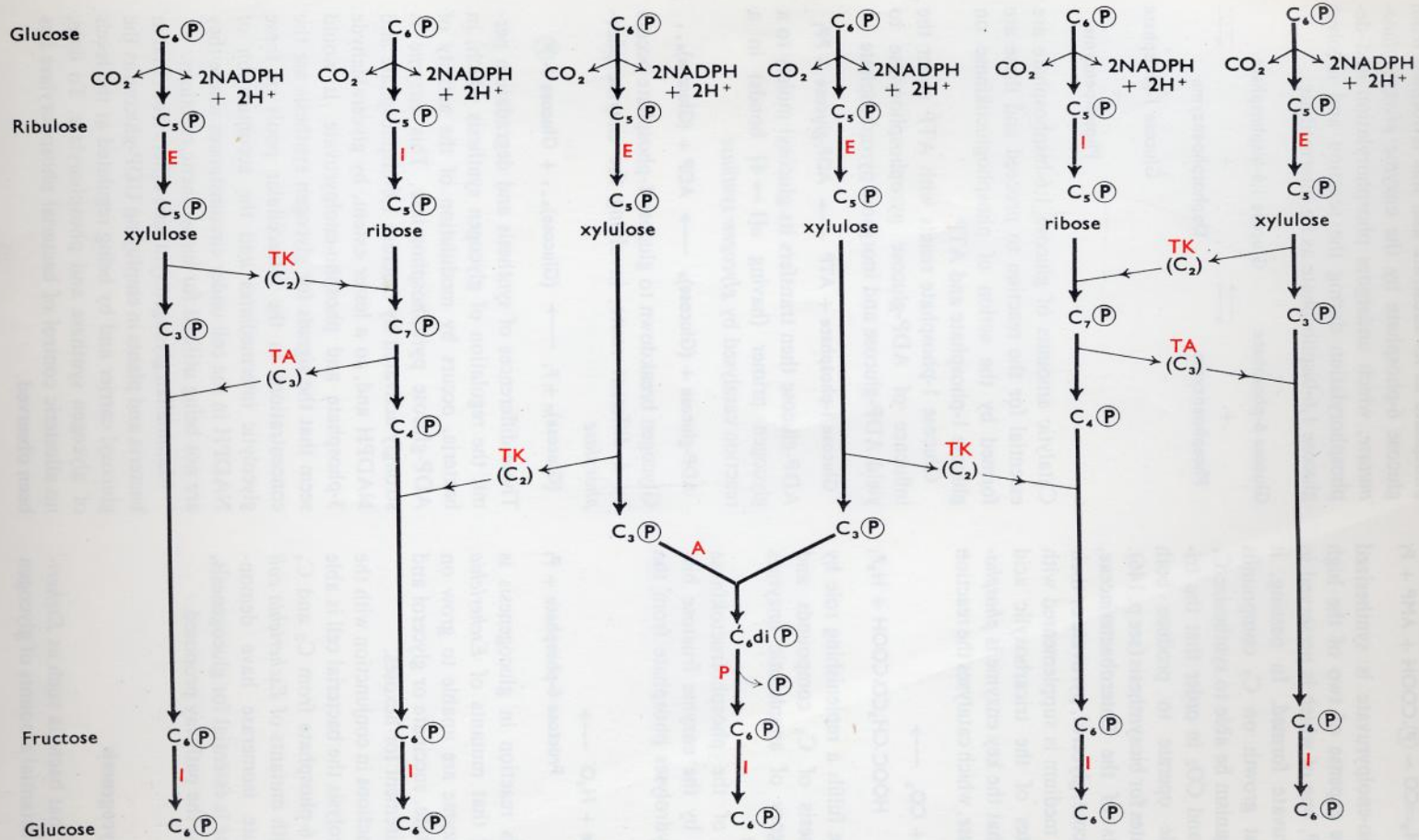


Fig. 4.2 The phosphoketolase pathway for heterolactic fermentation.

Pentose Phosphate Pathway



Overall reaction

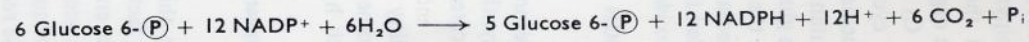
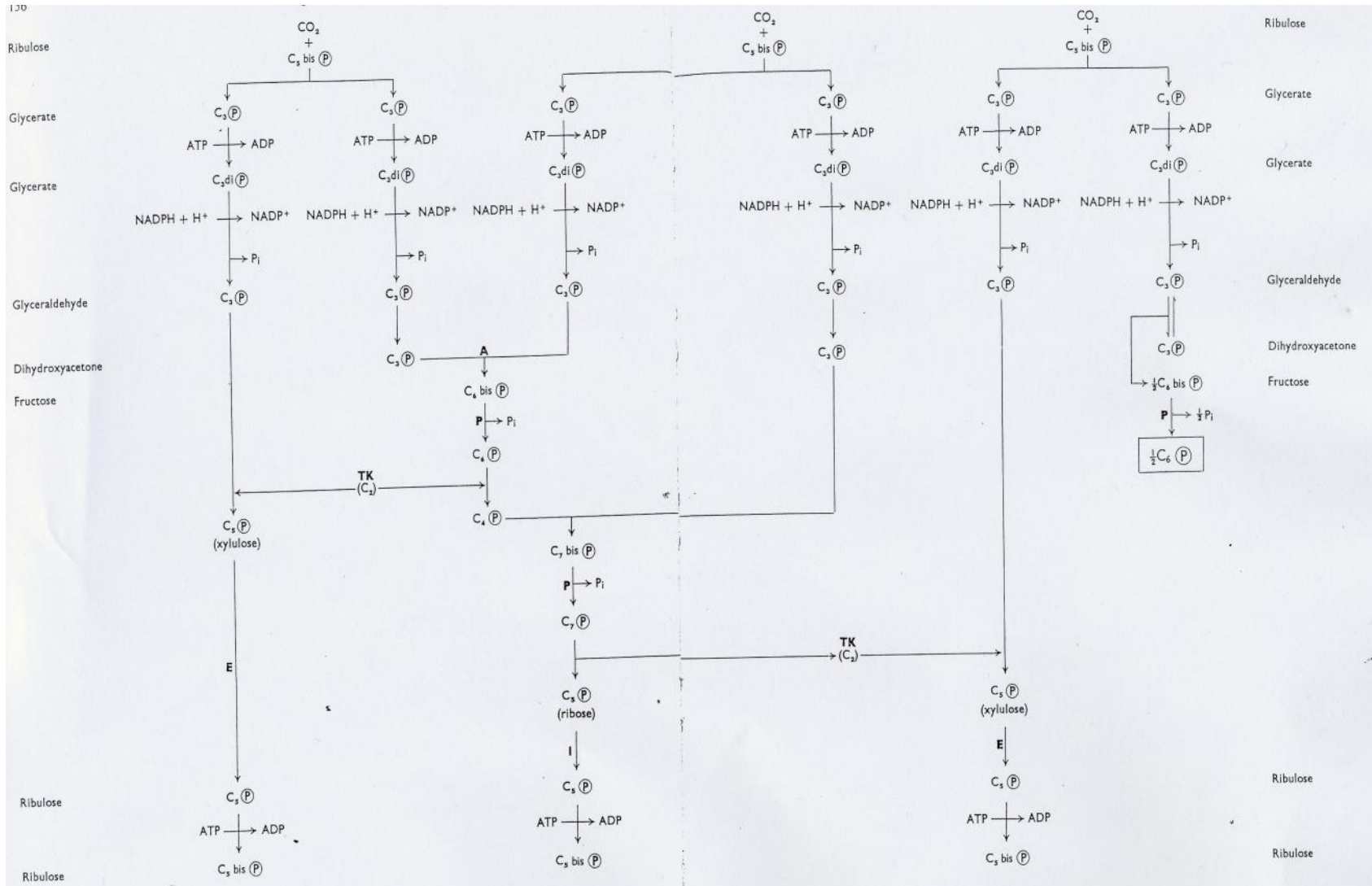


Figure 4. The Pentose Phosphate Pathway.

TK = transketolase
 TA = transaldolase
 A = fructose biphosphate aldolase

I = isomerase
 E = ribulose phosphate epimerase
 P = phosphatase

Photosynthetic or Calvin Cycle

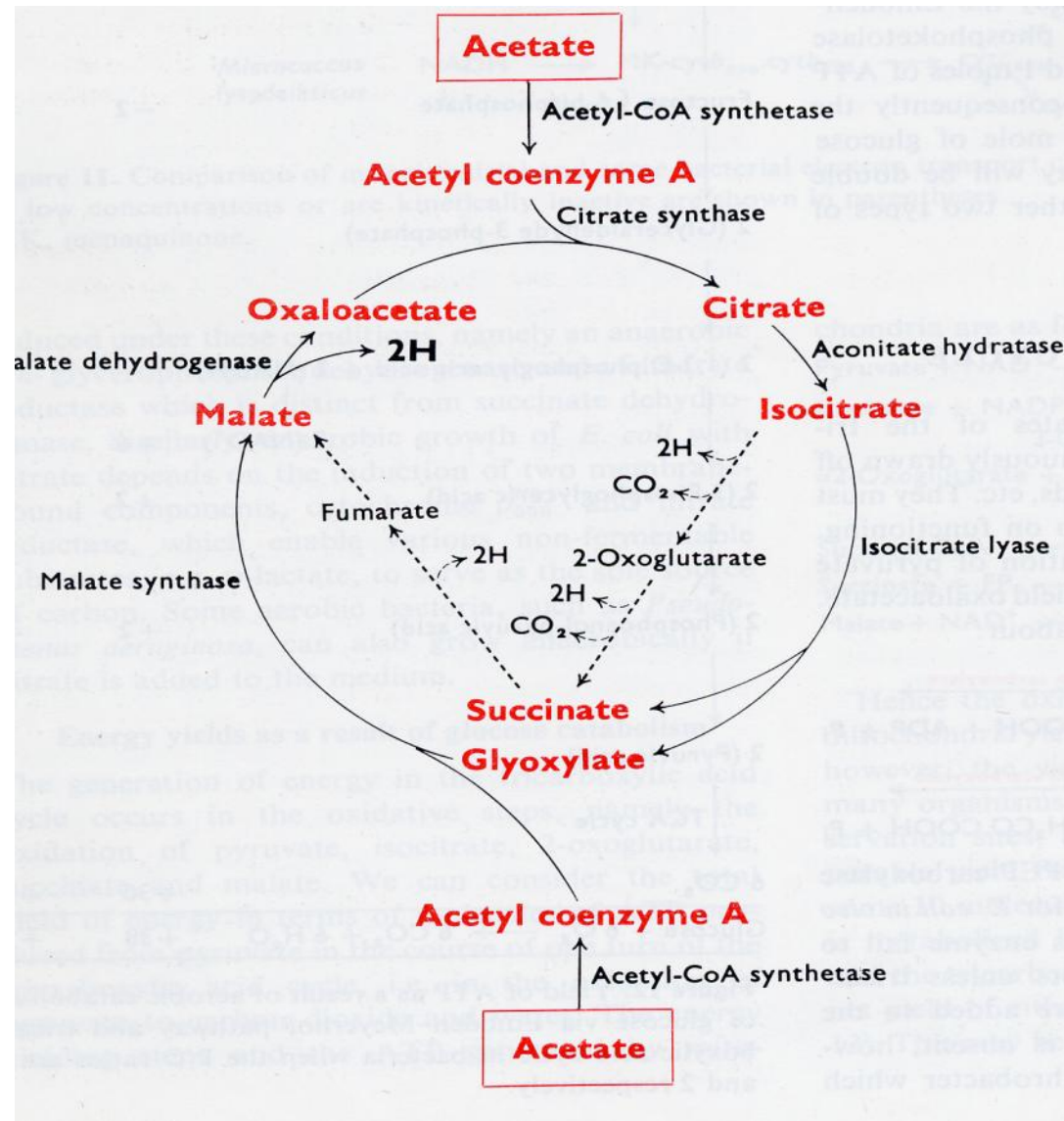


Overall reaction



Figure 14. The photosynthetic or Calvin cycle.
 TK = transketolase, A = aldolase, E = epimerase, I = isomerase, P = phosphatases.

Glyoxylate Bypass



Glyoxylate Bypass 2

