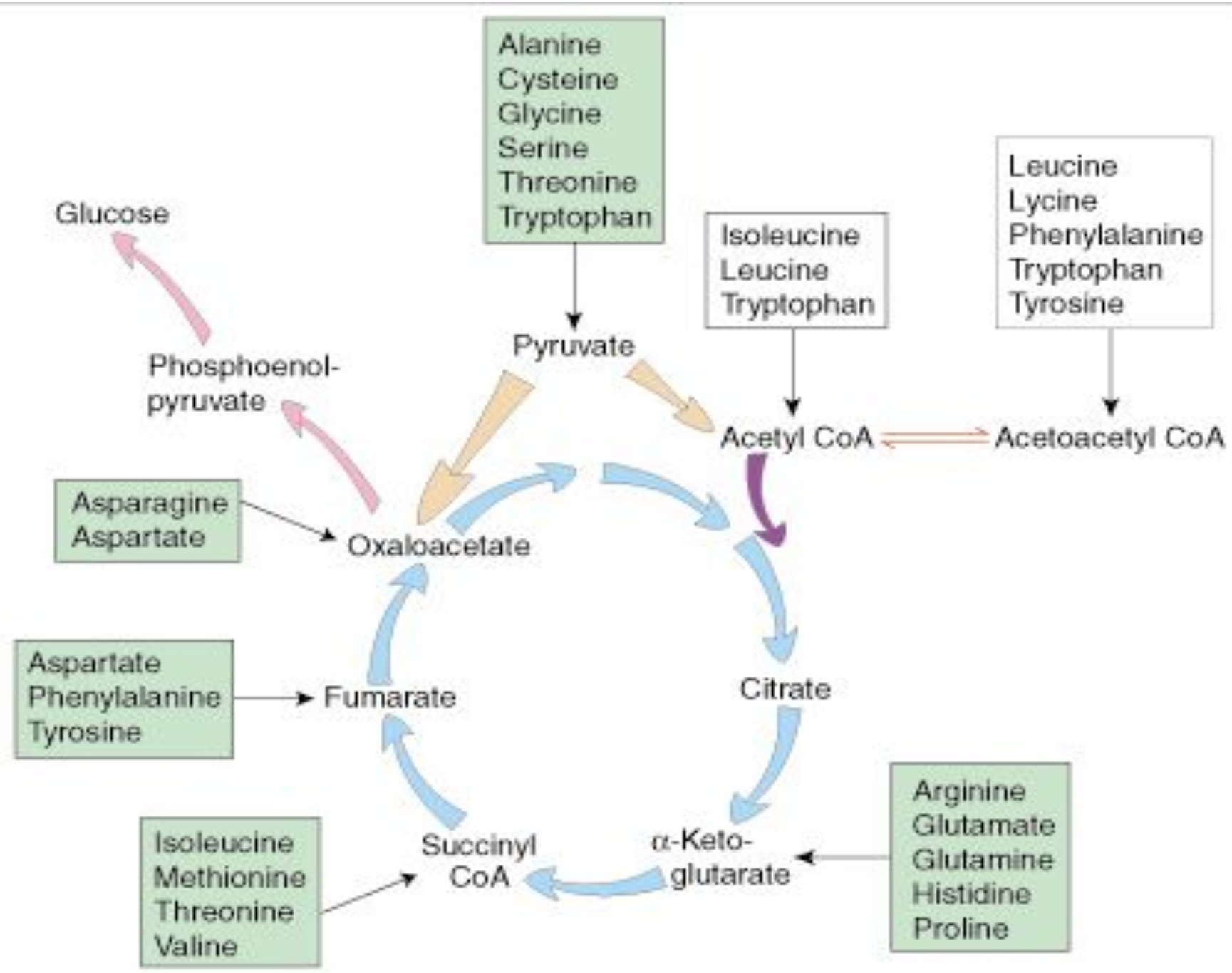
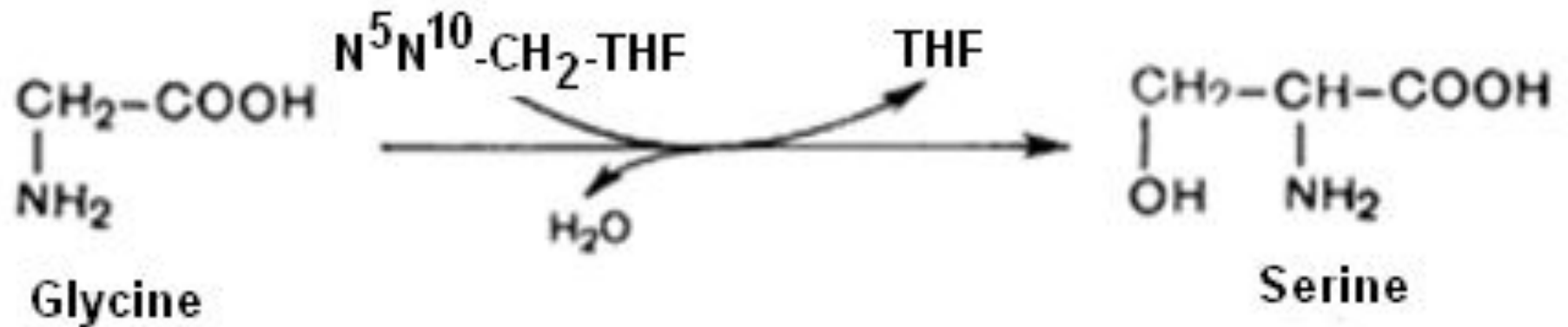


Amino acid and protein metabolism II



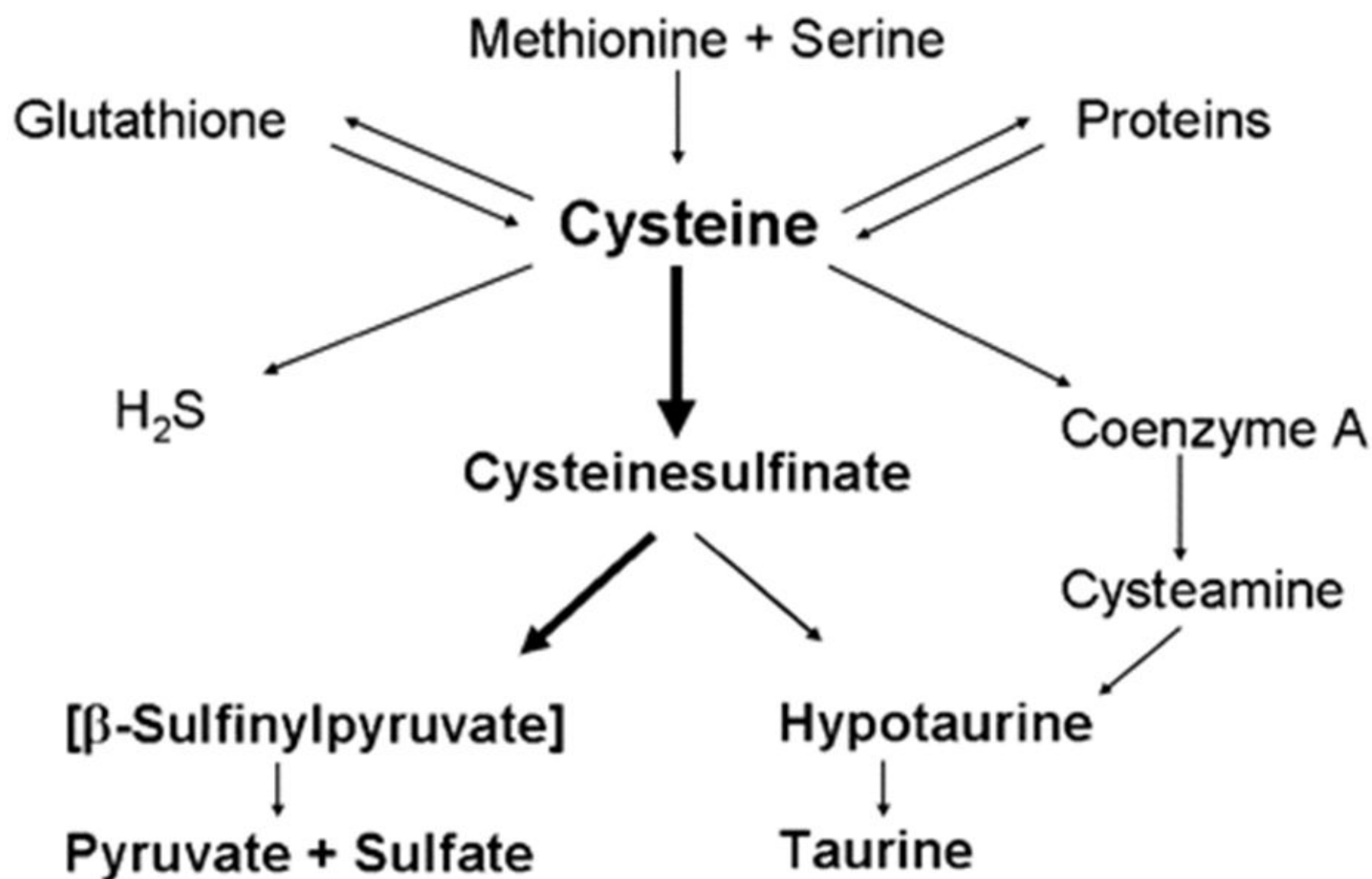
Metabolism of glycine, serine and threonine



Metabolism of sulfur amino acids

Methionine + ATP →

→ S-adenosylmethionine + PP_i + P_i



Metabolism of branched chain amino acids

Leu, Ile, Val

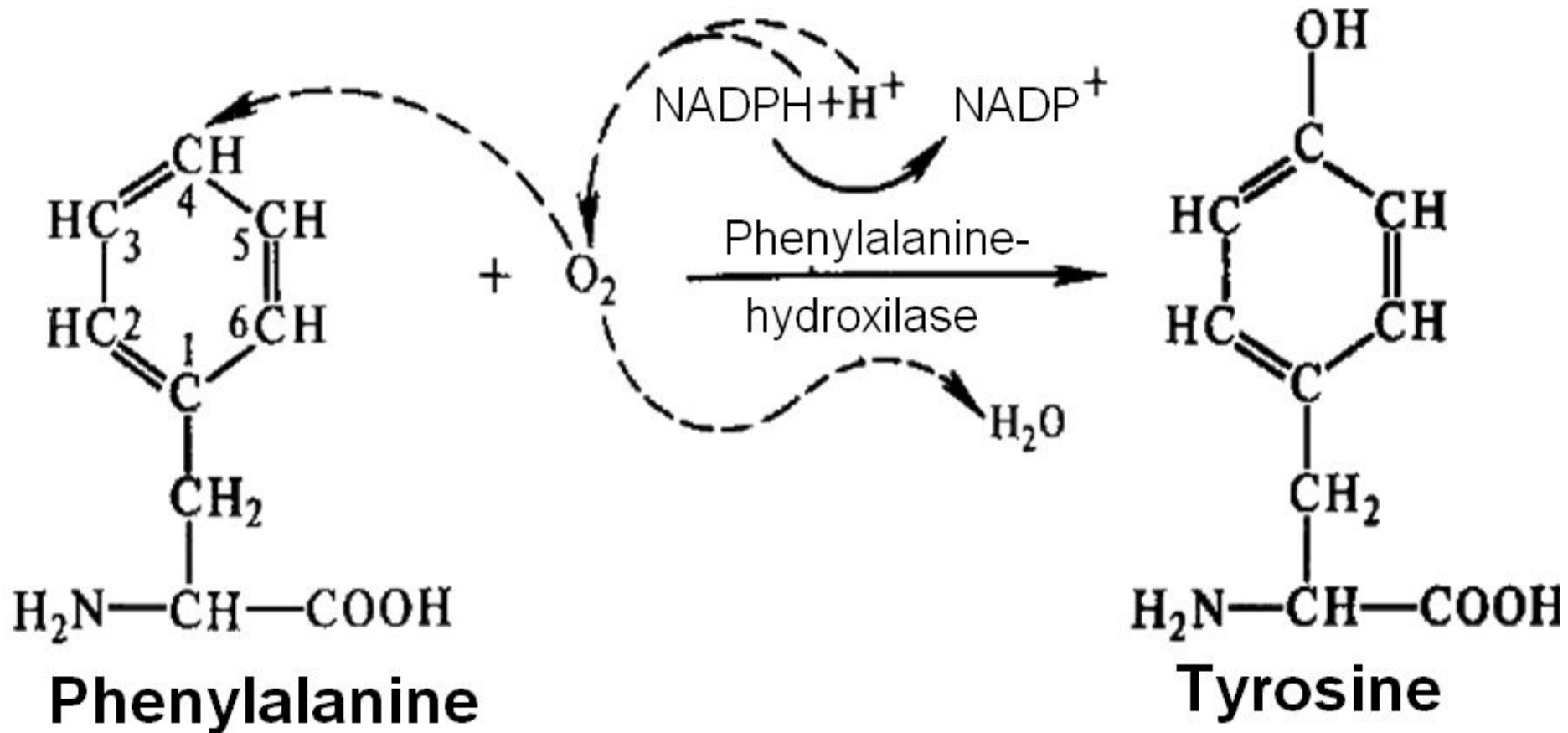


α -keto acids

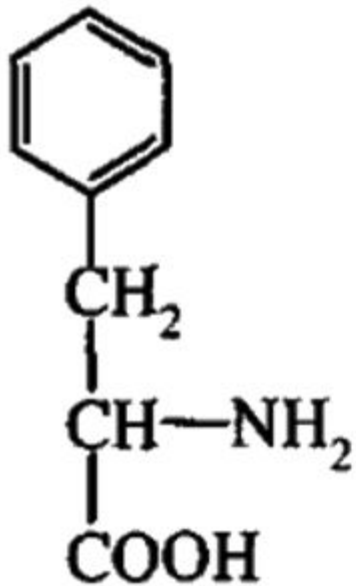


acyl-CoA derivatives

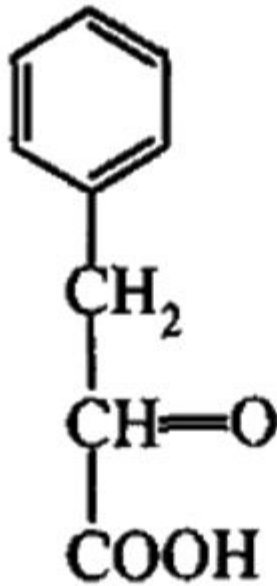
Phenylalanin oxidation



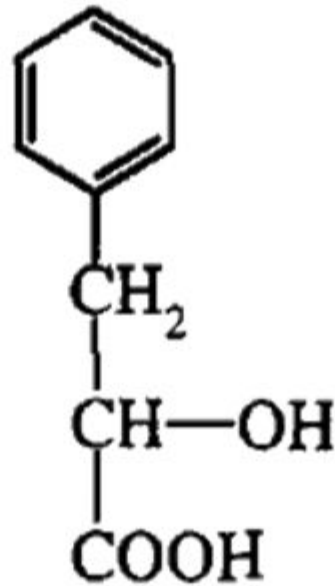
Phenylketonuria



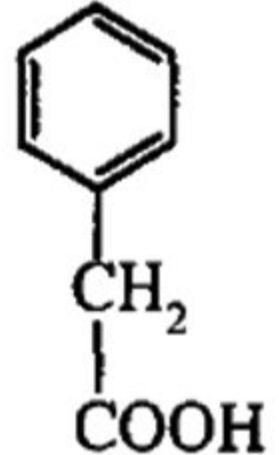
Phenylalanine



Phenylpyruvate

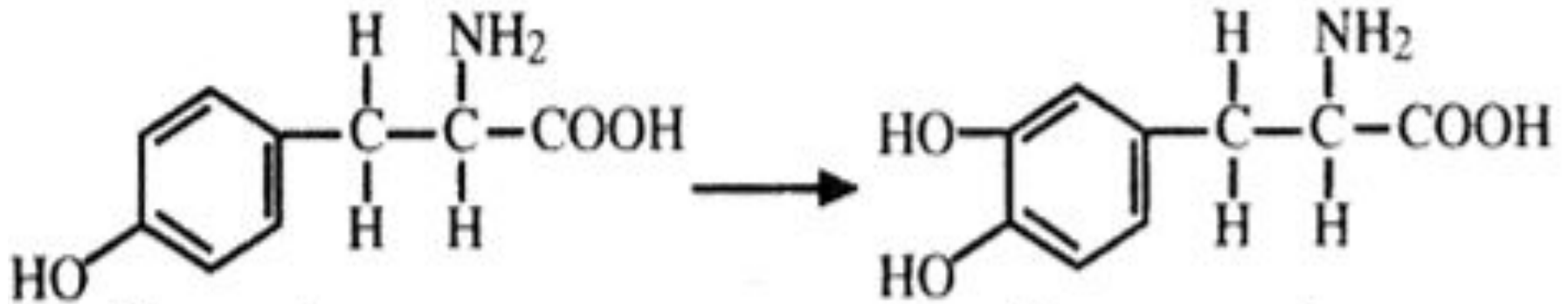


Phenyllactate



Phenylacetate

Tyrosine metabolism



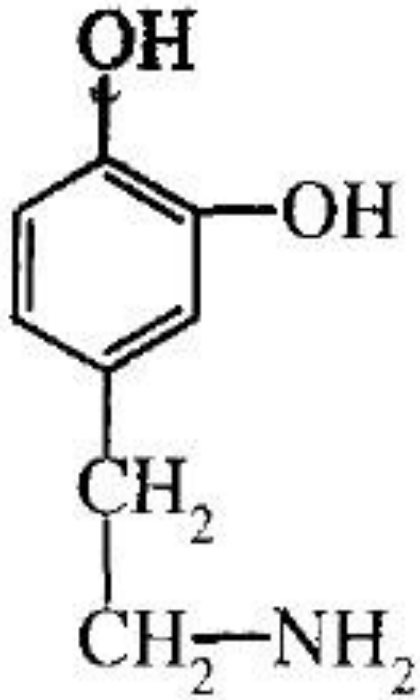
Tyrosine

**Dihydroxyphenyl
alanine (DOPA)**

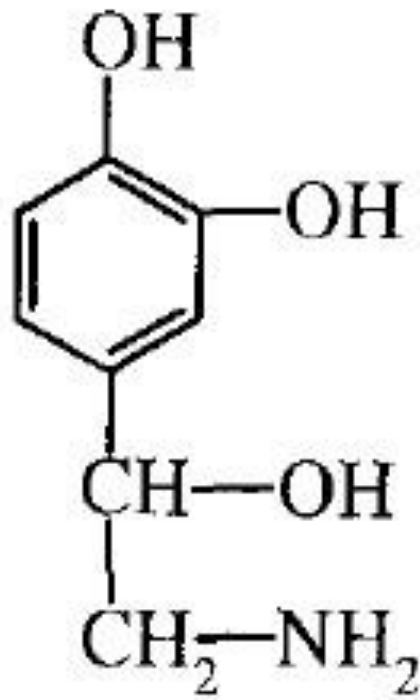
Albinism



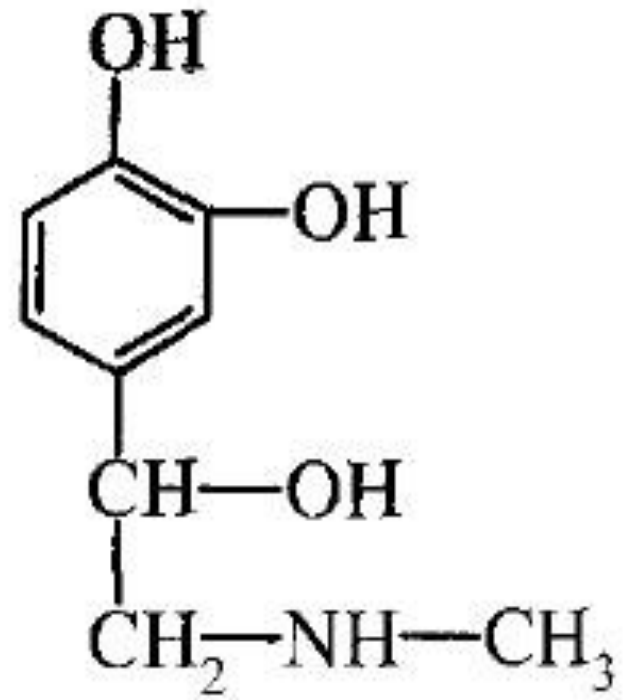
Catecholamines



dopamine

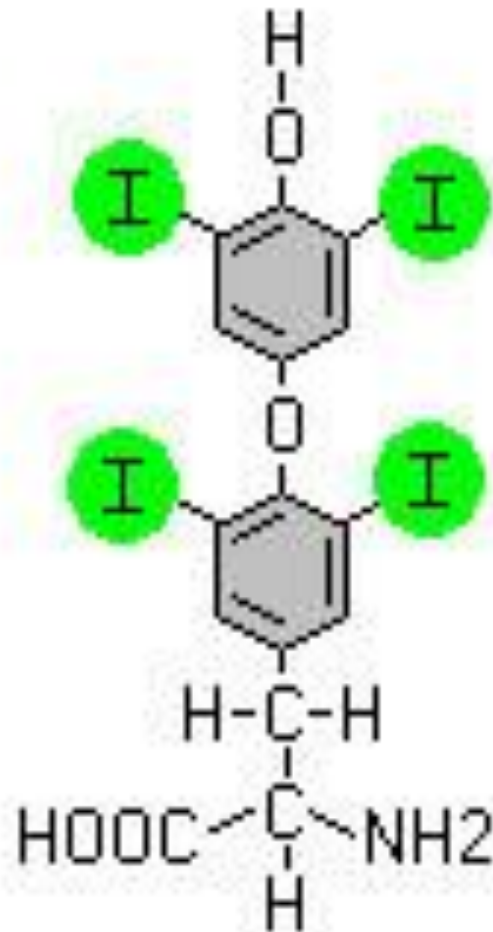


noradrenaline

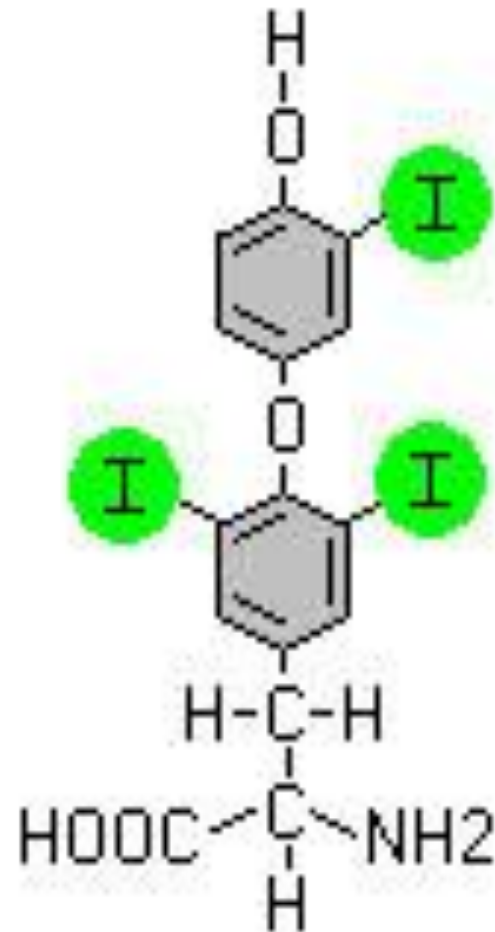


adrenaline

Thyroid Hormones

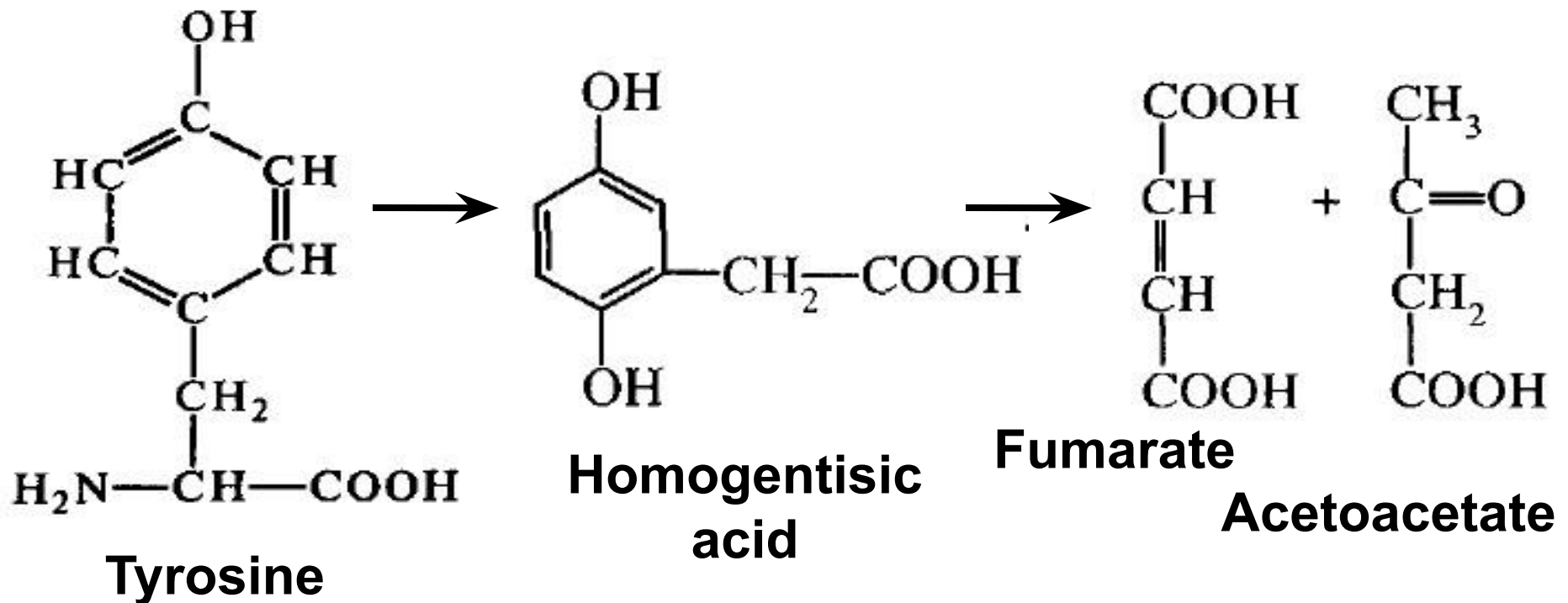


tiroksin (T4)

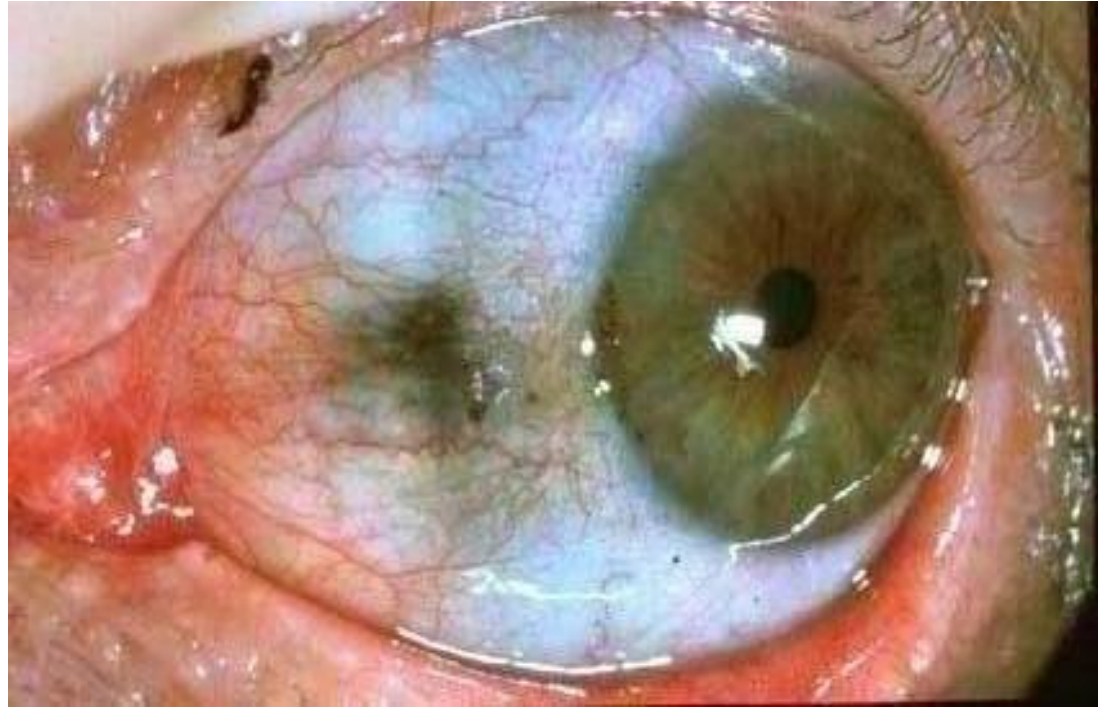


trijodironin (T3)

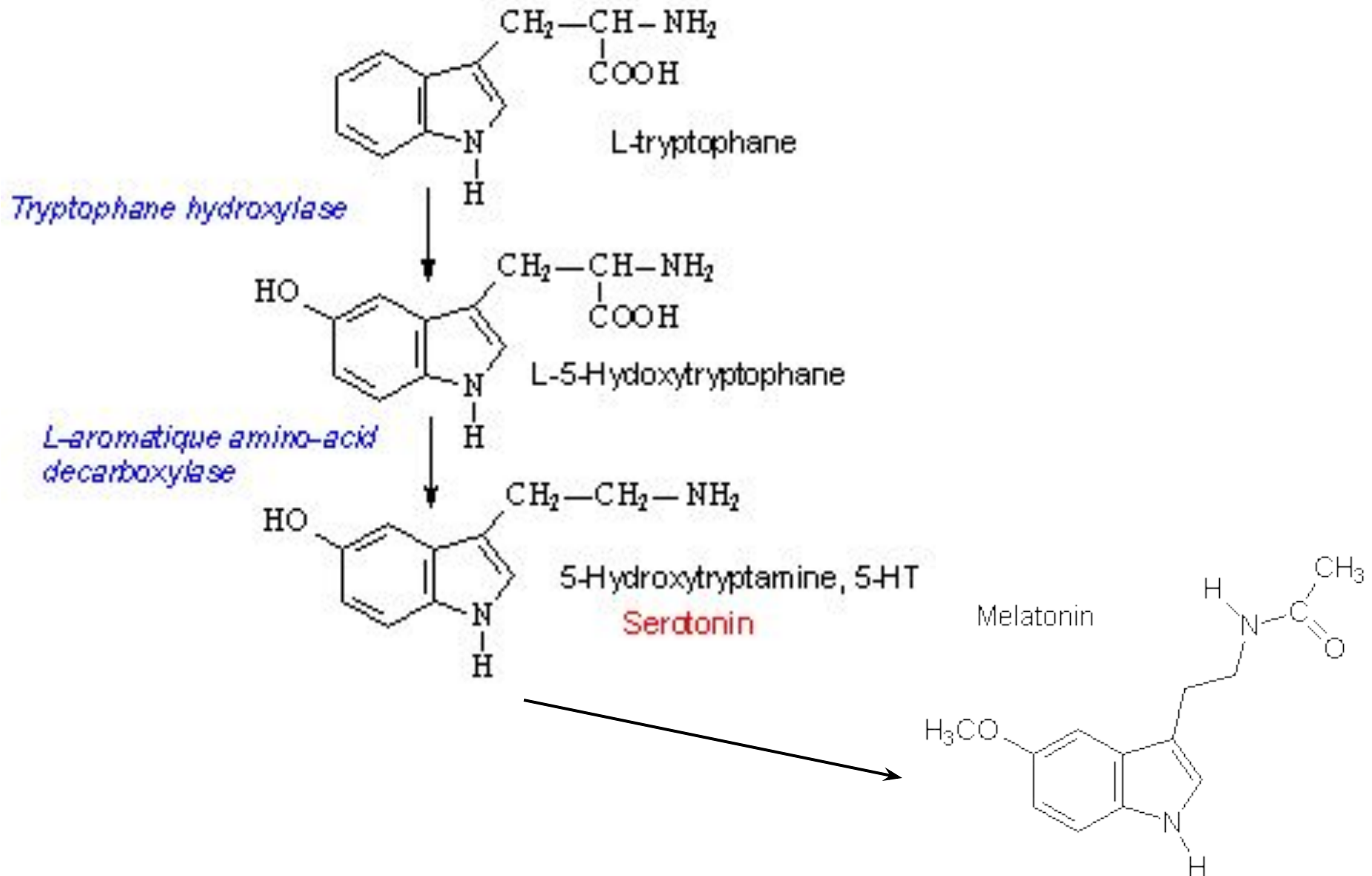
Tyrosine metabolism



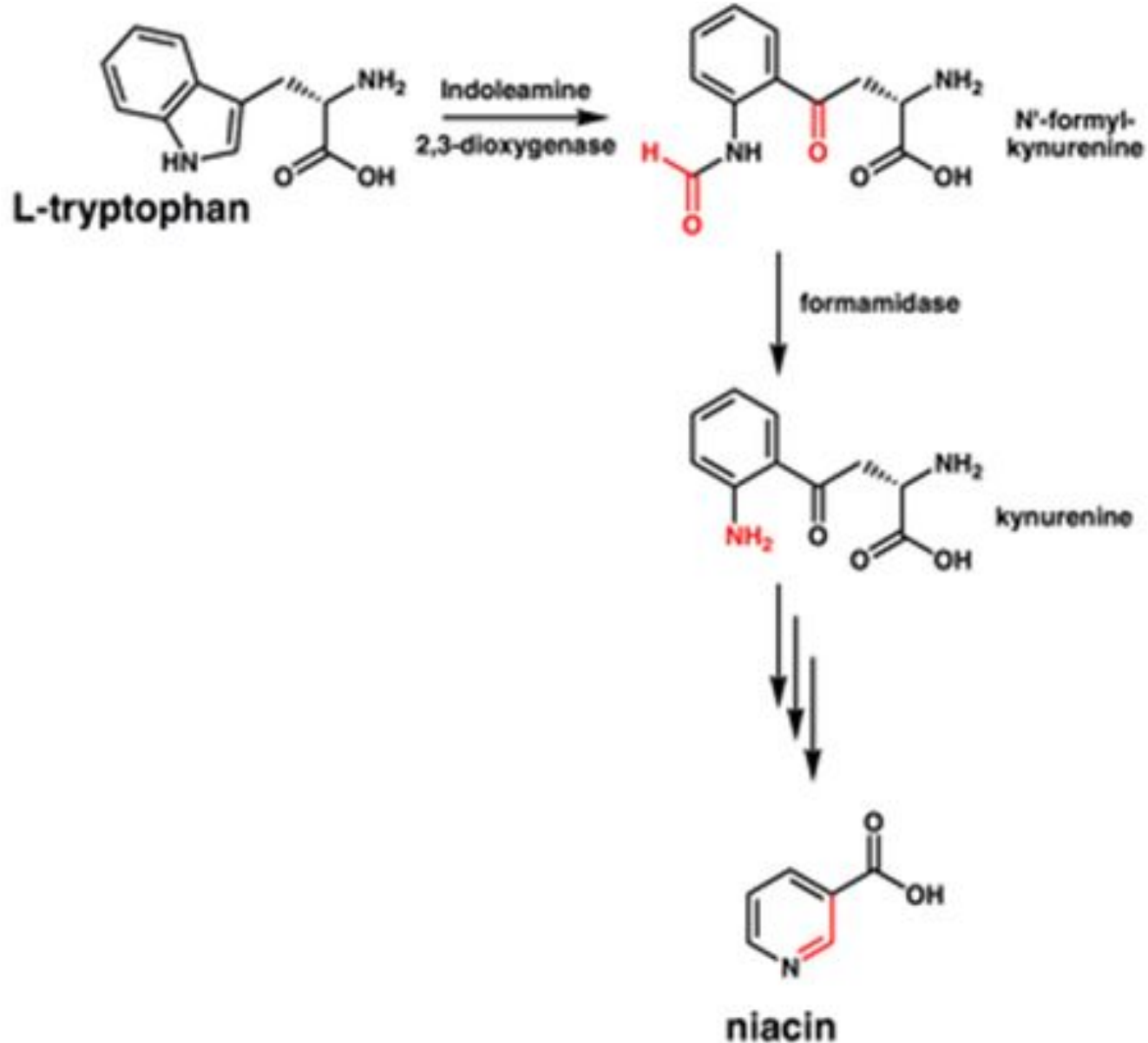
Homogentisuria



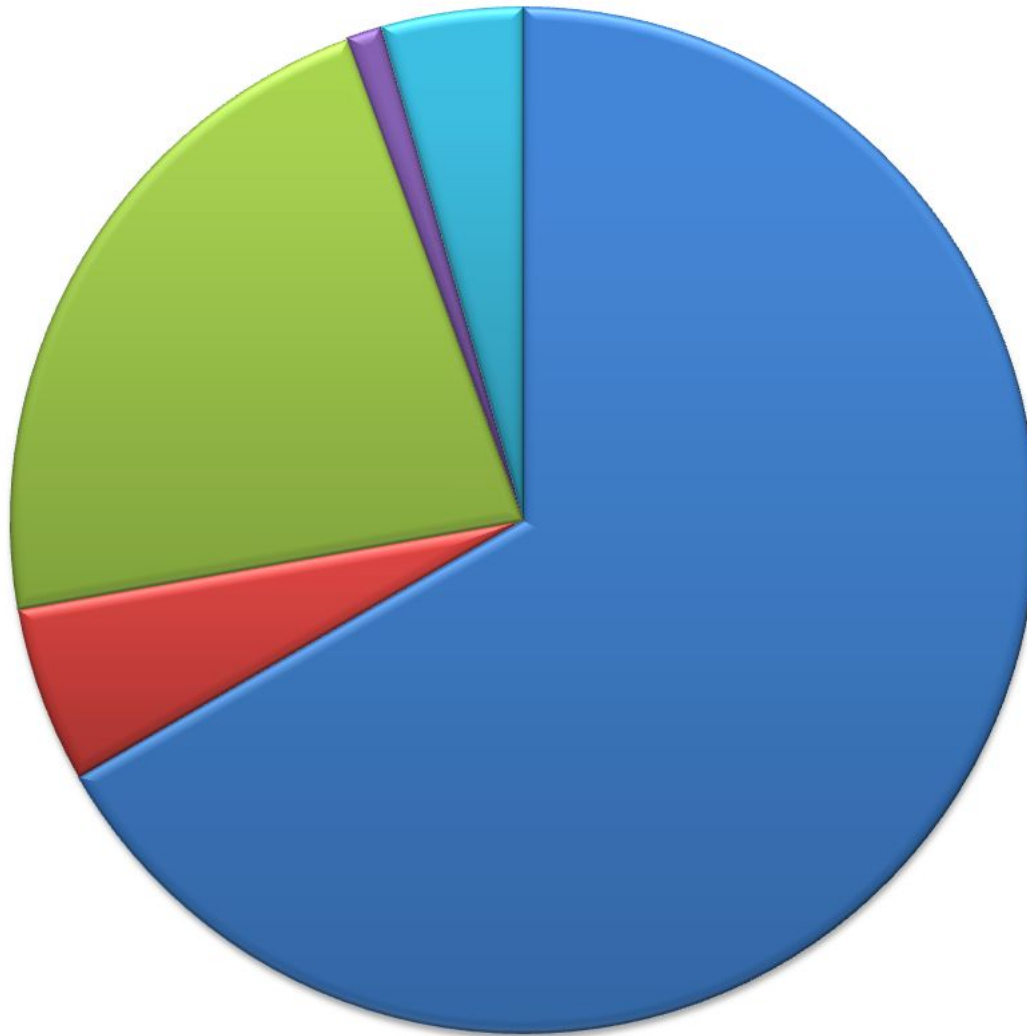
Tryptophan metabolism



Tryptophan metabolism



Iron



■ **Haemoglobin**

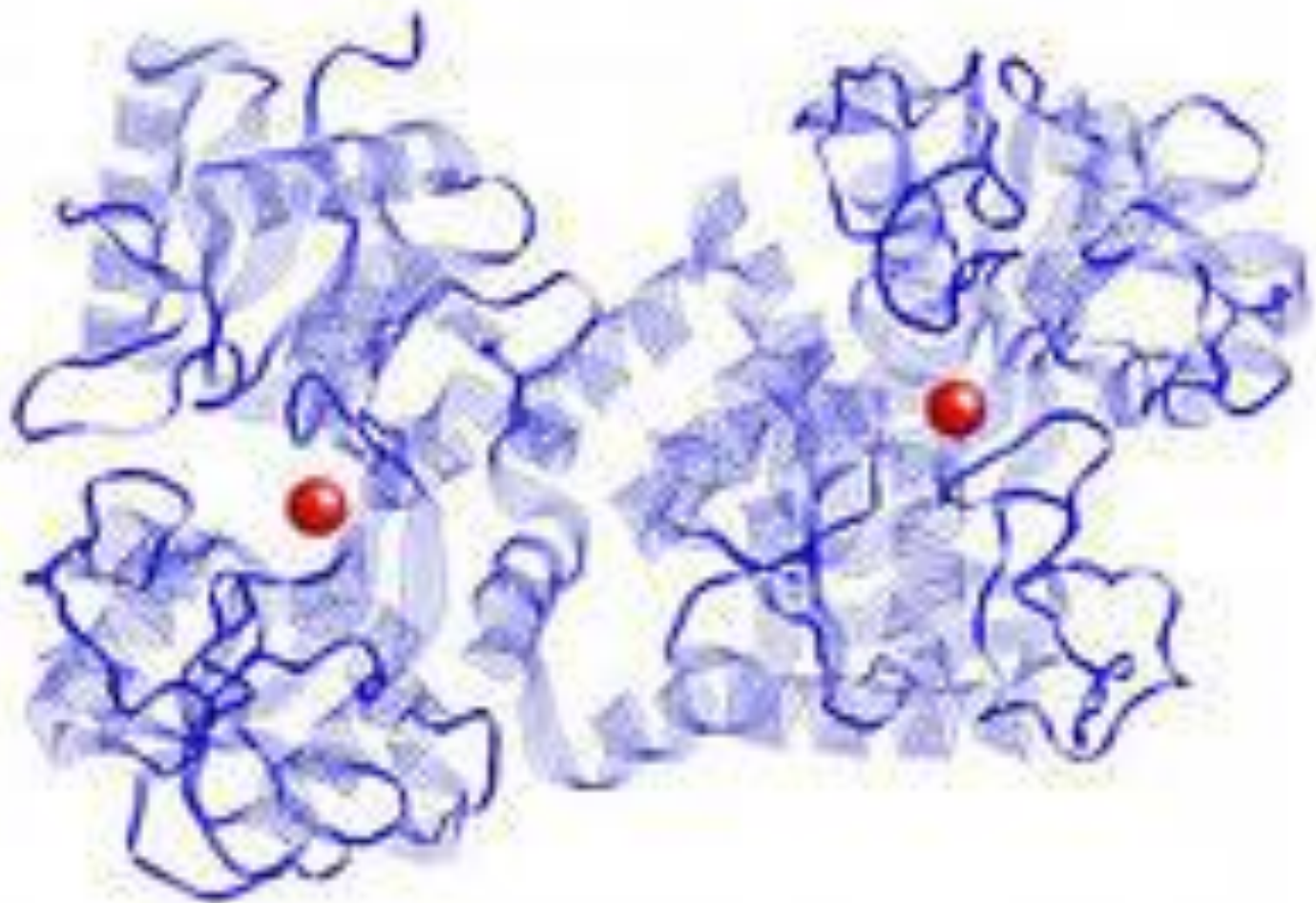
■ **Myoglobin**

■ **Ferritin**

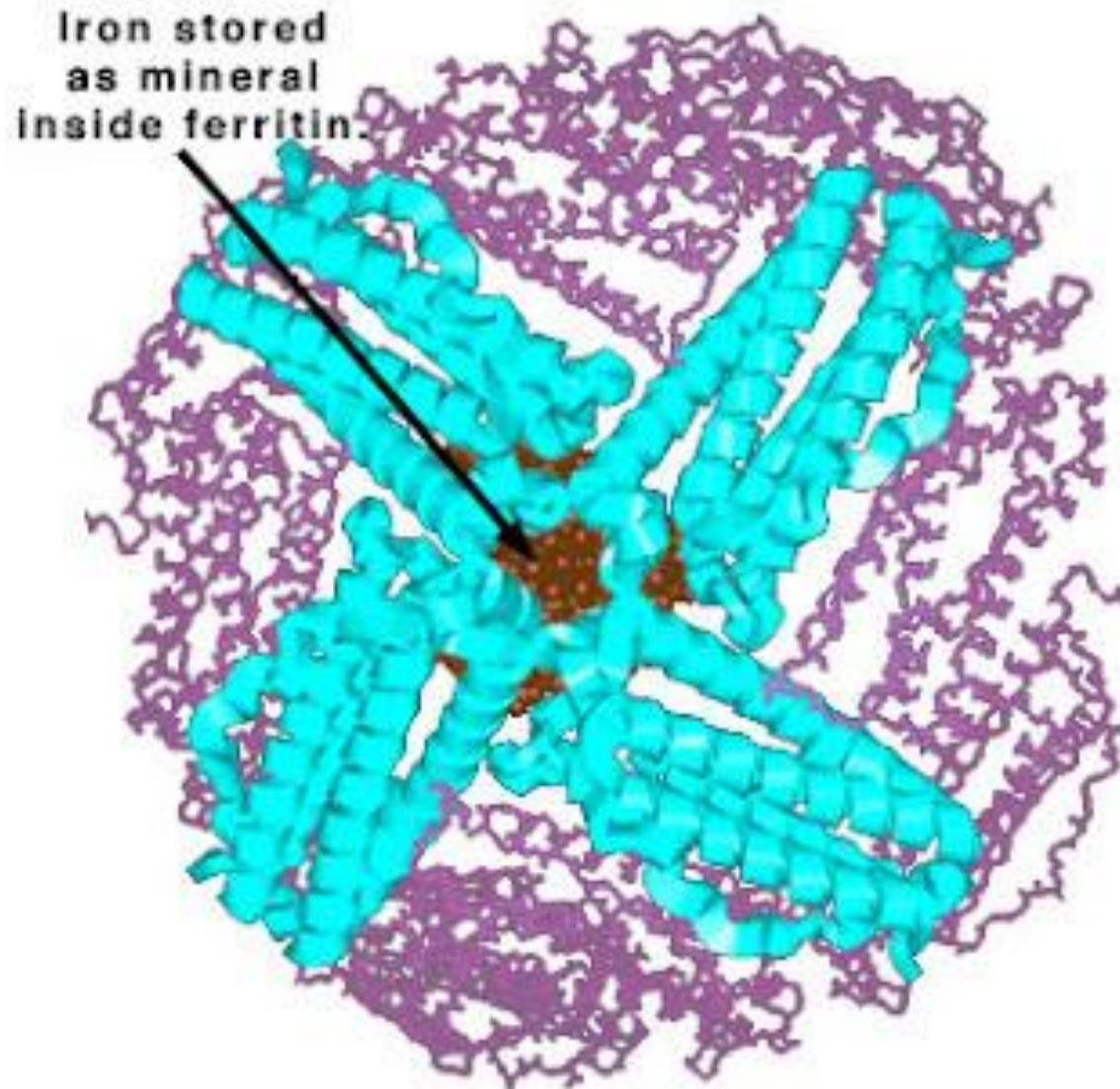
■ **Transferrin**

■ **Functional iron
of tissues**

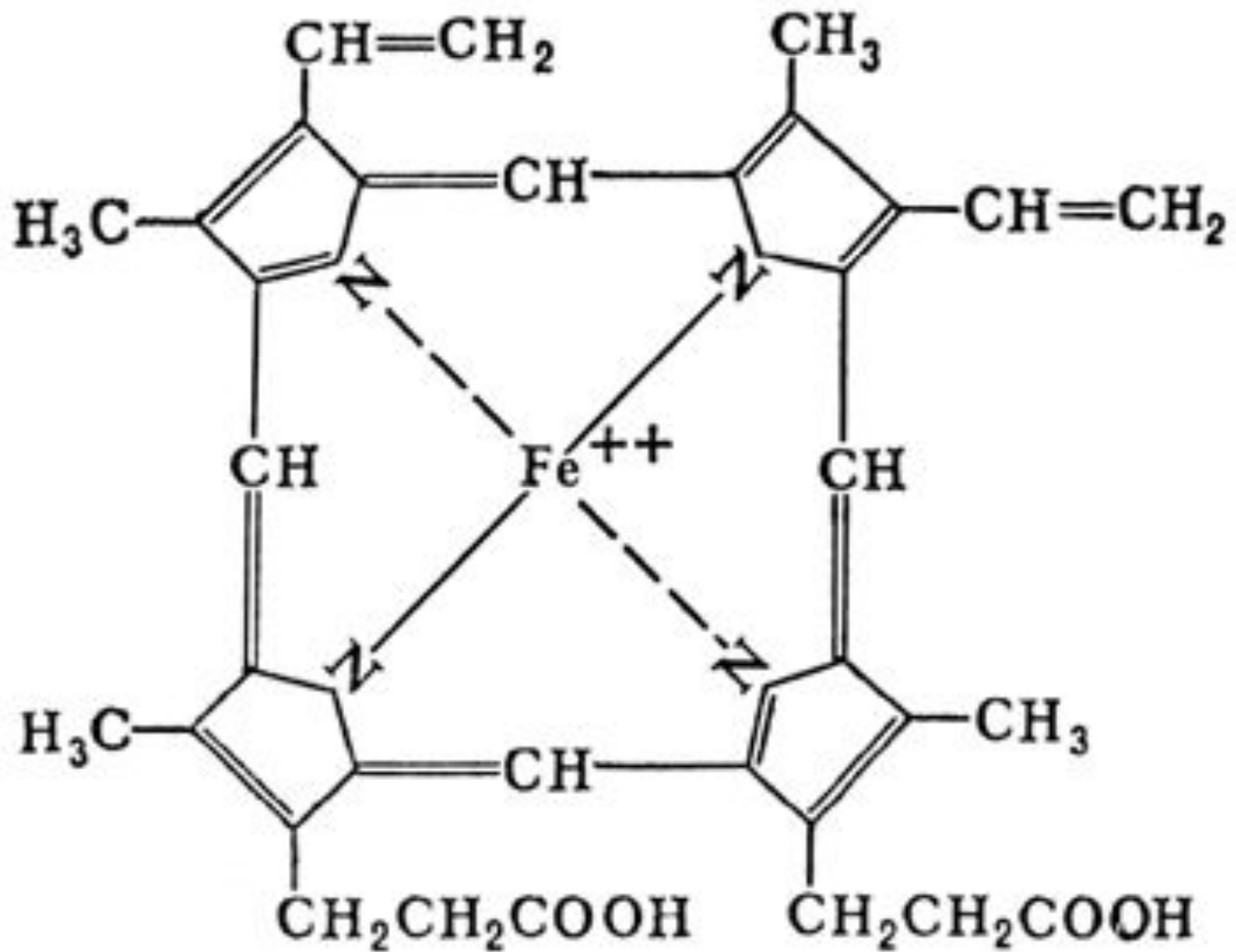
Transferrin

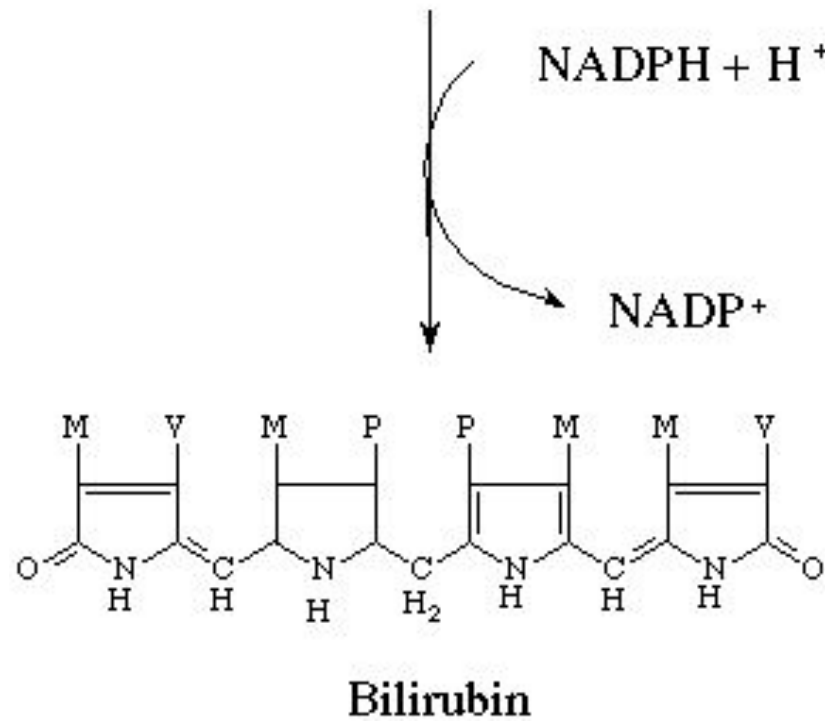
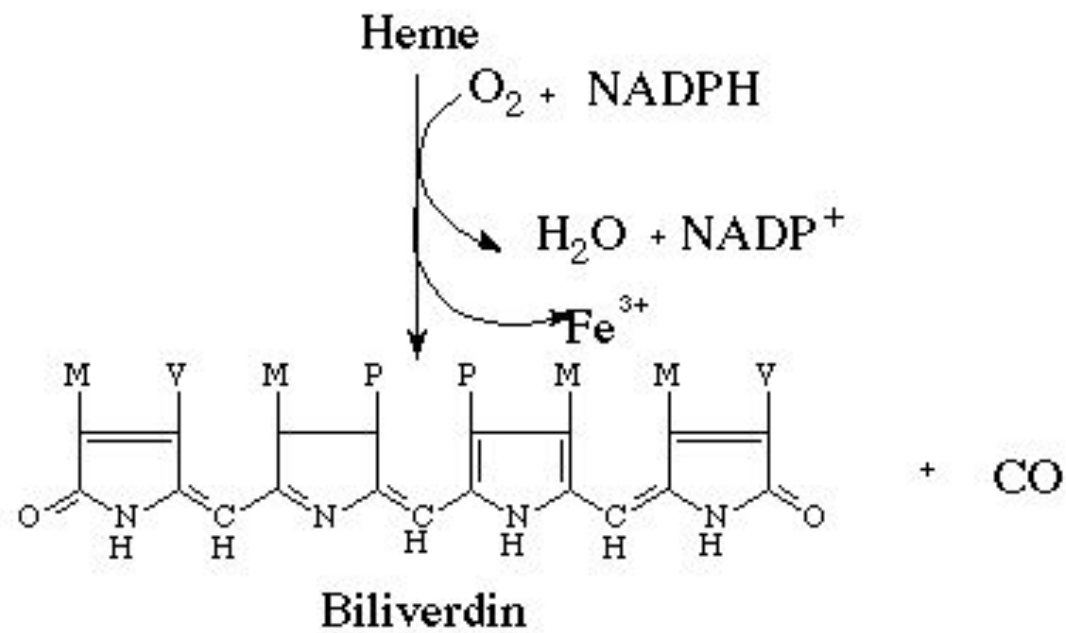


Ferritin



Heme





Hemoglobin



verdoglobin
(green pigment)

- iron

- globin

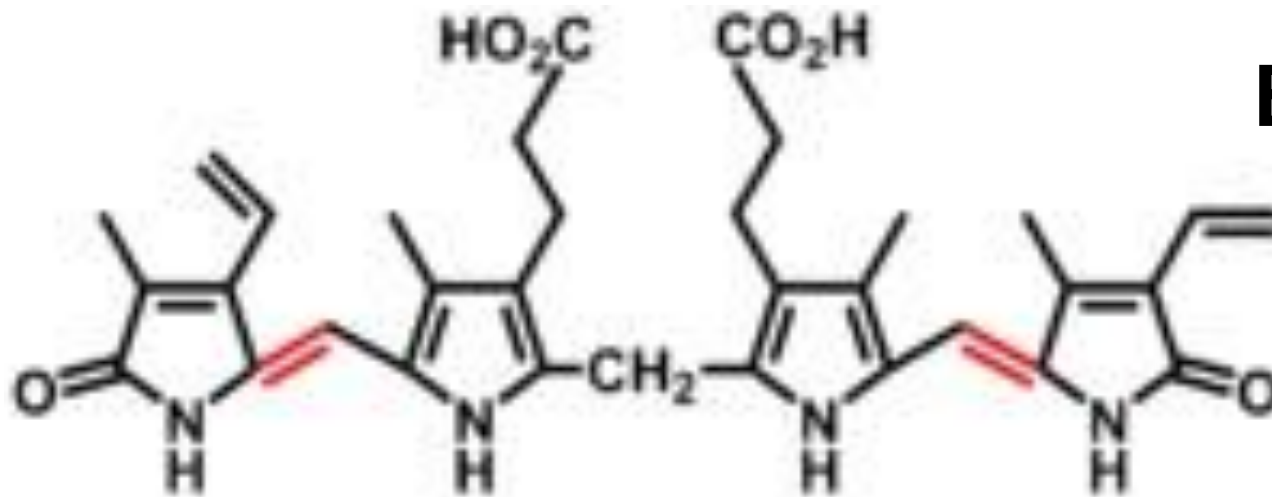


biliverdin (bile pigment)

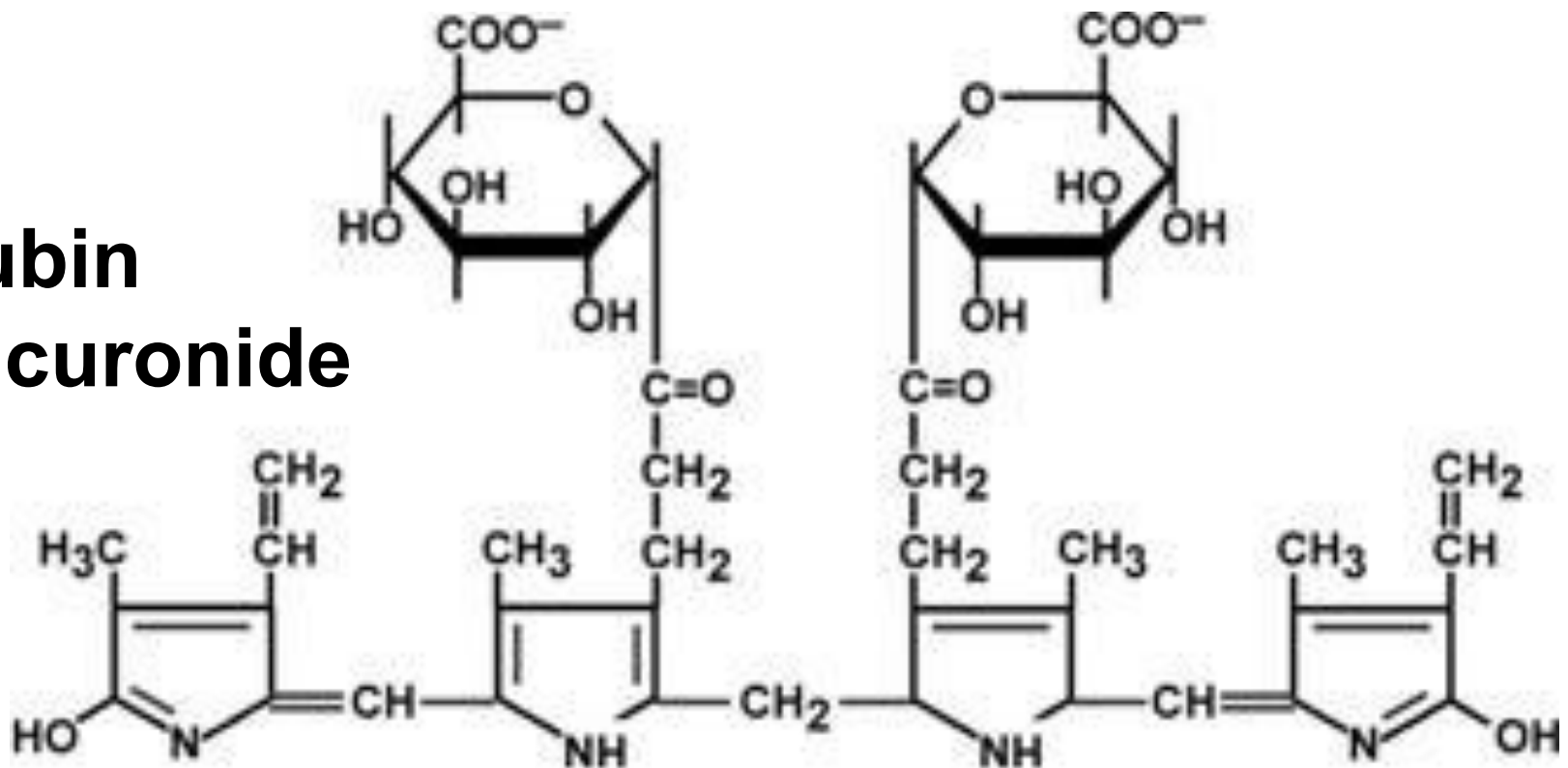


Bilirubin

Bilirubin



**Bilirubin
diglucuronide**

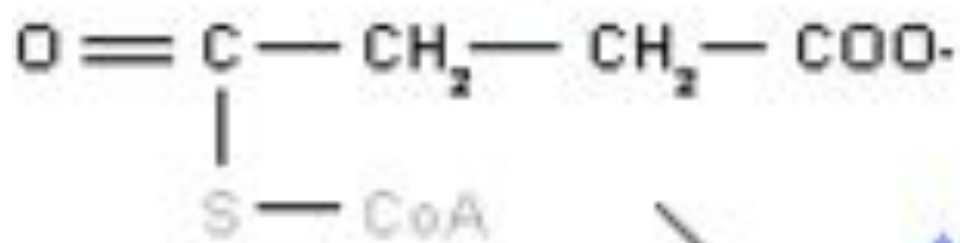


Jaundice



Hemoglobin synthesis

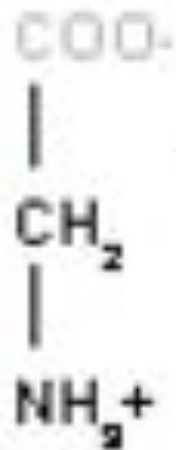
Succinyl-CoA



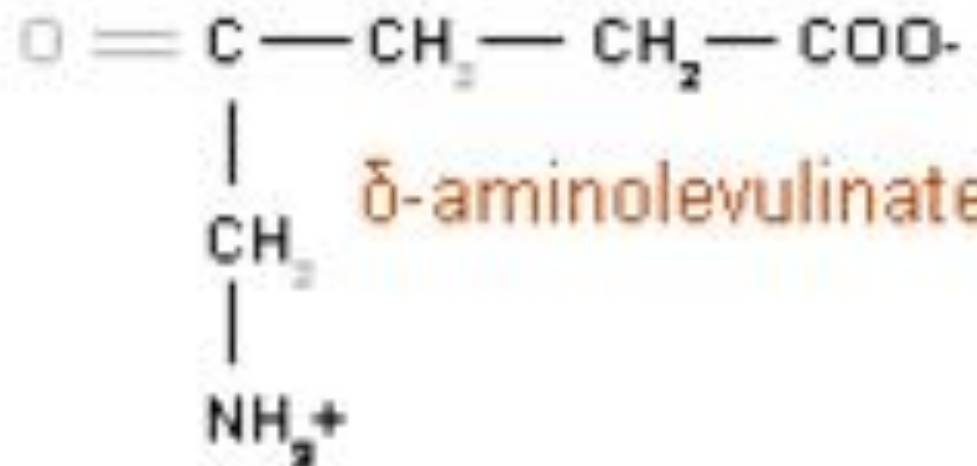
CO_2 & CoA-SH

ALA-synthase

Glycine



H^+



δ -aminolevulinate

Hemoglobin synthesis

Succinyl-CoA + Glycine



5-Aminolevulinic acid



Protoporphyrin IX



Heme

+

Globin



Hemoglobin



Porphyria

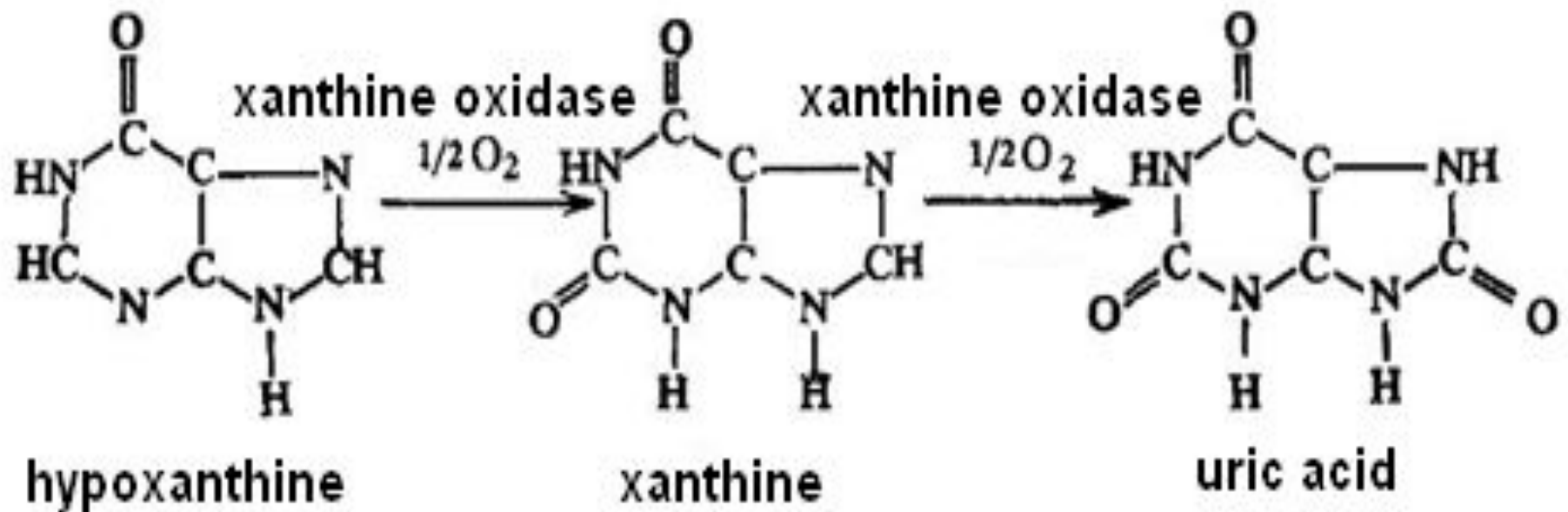


***NUCLEOPROTEIN
AND
NUCLEIC ACID
METABOLISM***

Purines catabolism

adenine → hypoxanthine

guanine → xanthine



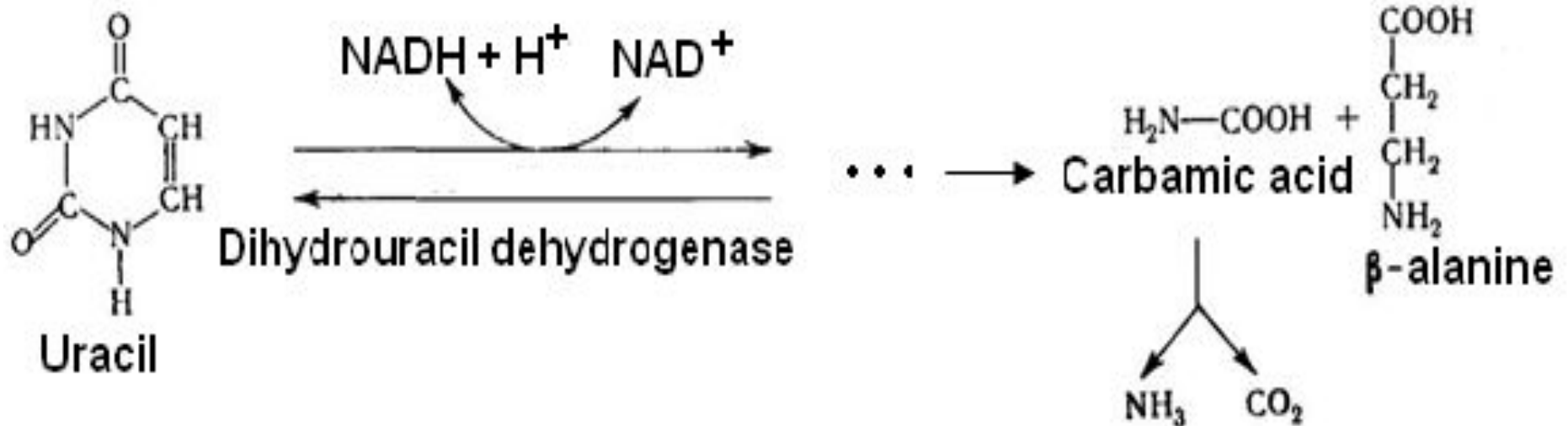
Gout



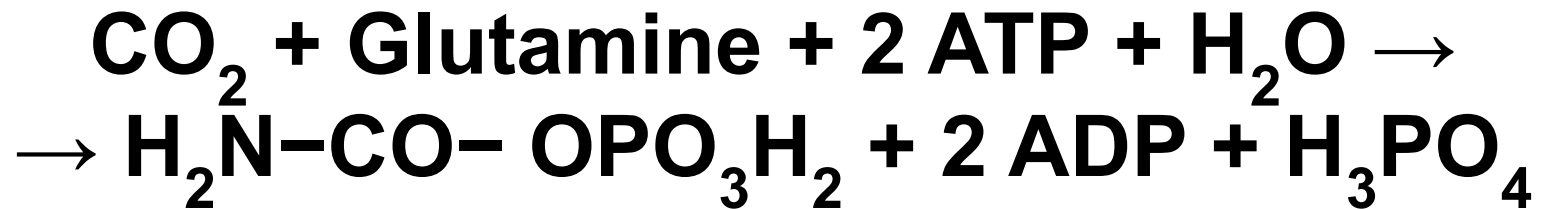
Gout



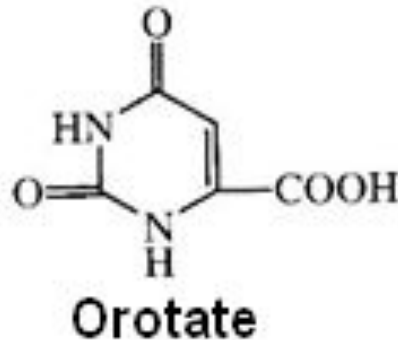
Pyrimidines catabolism



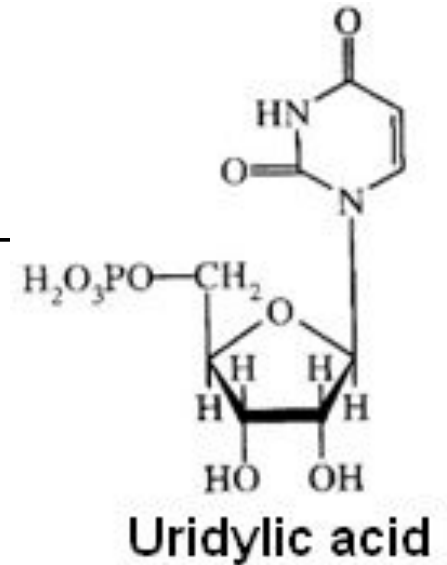
Pyrimidine synthesis



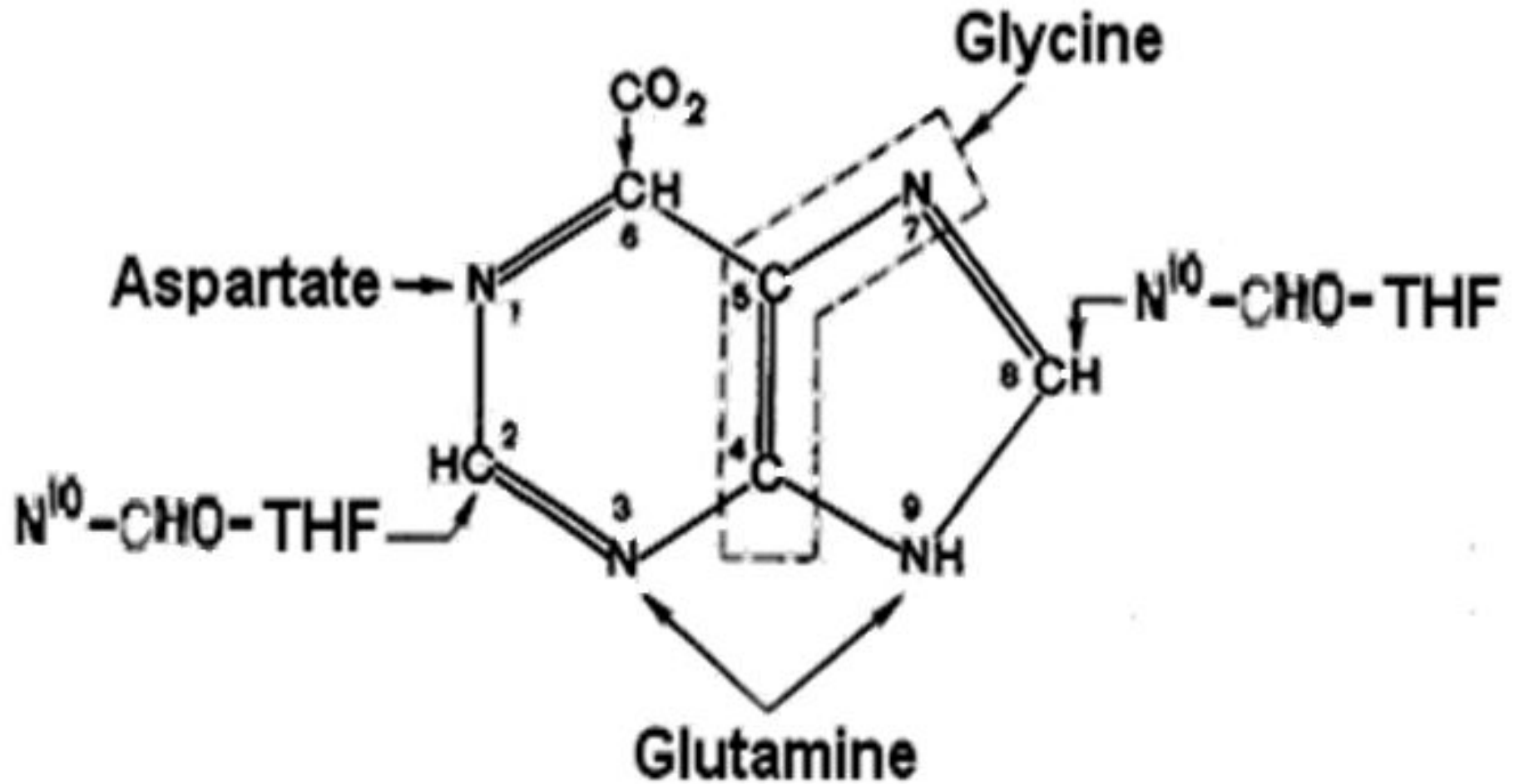
CP + Asp $\rightarrow$...-



$\rightarrow$ orotidylic -
acid



Purine synthesis



Purine synthesis

