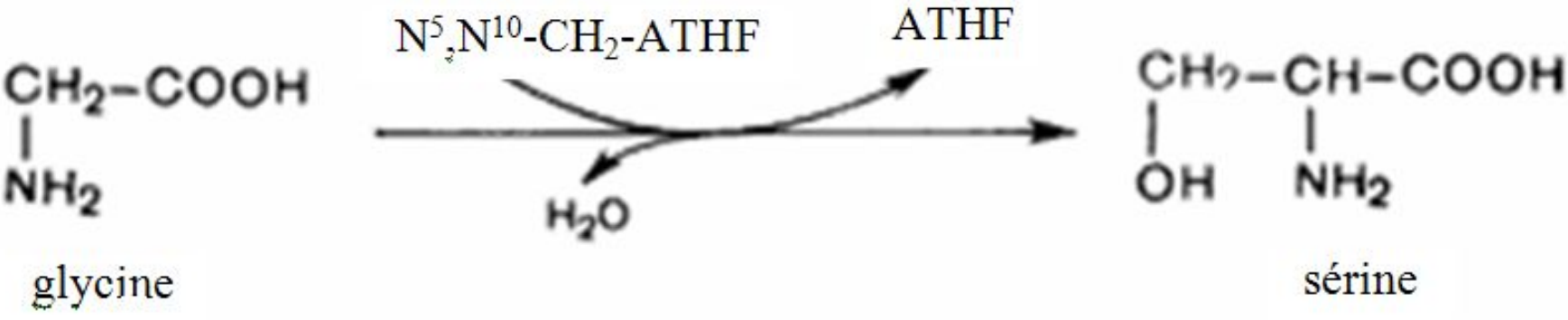
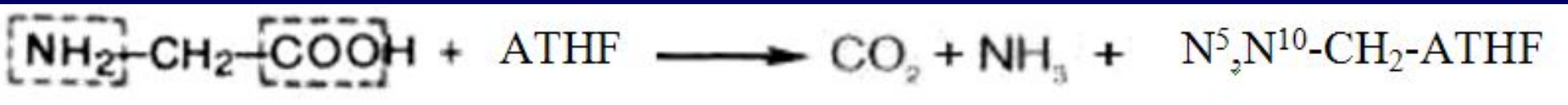
MÉTABOLISME DE CERTAINS ACIDES AMINÉS. PATHOLOGIES DU MÉTABOLISME AZOTÉ . MÉTABOLISME DES HÉMOPROTÉINES. BILIRUBINE. TYPES DES ICTÈRES. MÉTABOLISME DES NUCLÉOPROTÉINES. BIOSYNTHÈSE ET DÉCOMPOSITION DES ACIDES NUCLÉIQUES.

MÉTABOLISME DES ACIDES AMINÉS

- GLYCINE, SÉRINE, THRÉONINE





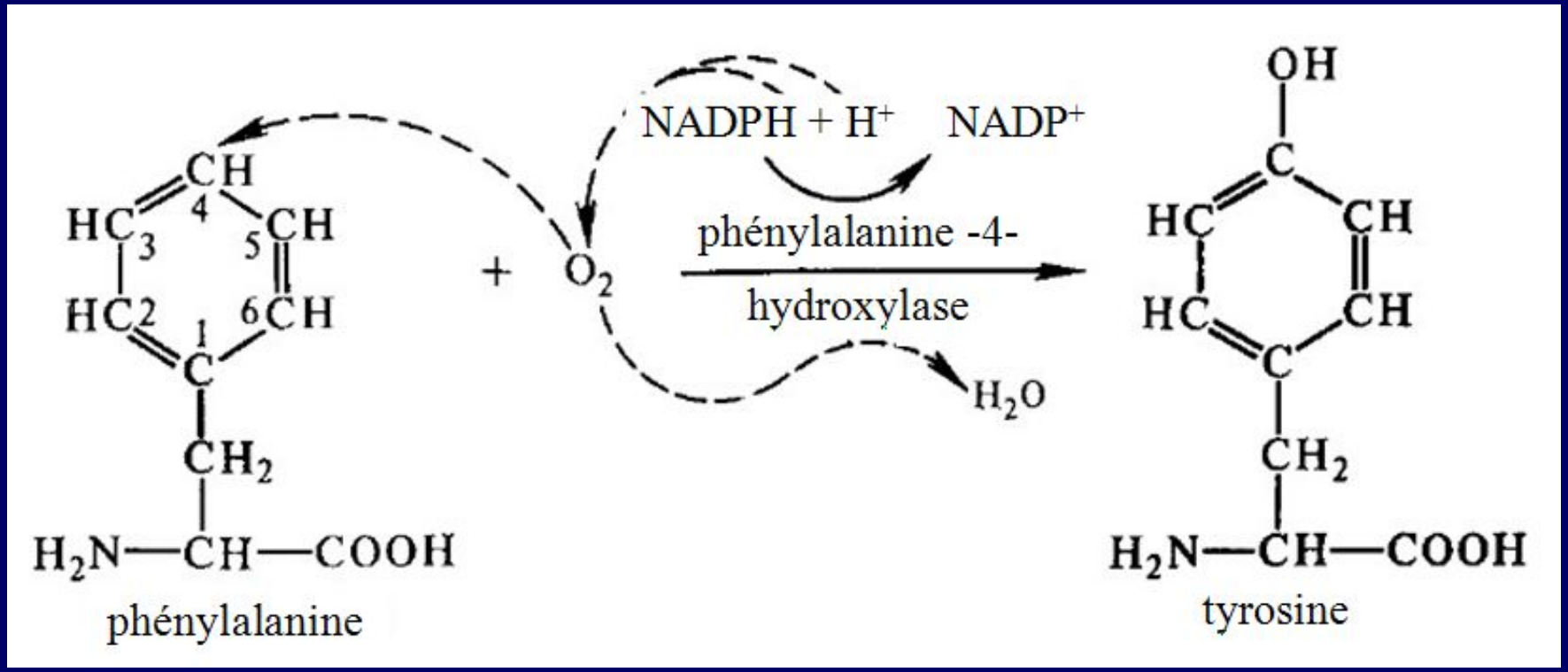
- LES ACIDES AMINÉS SULFURÉS

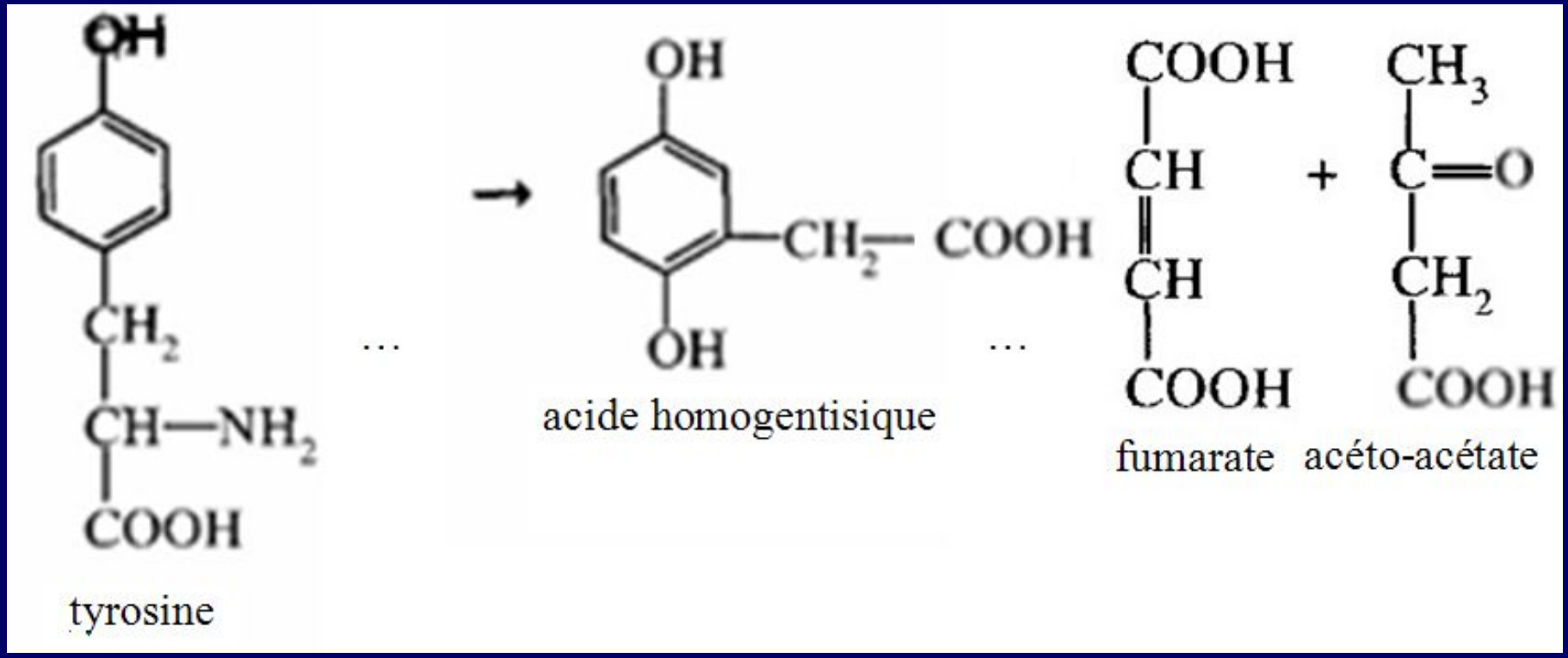
Méthionine + ATP → S-adénosylméthionine + PP + P

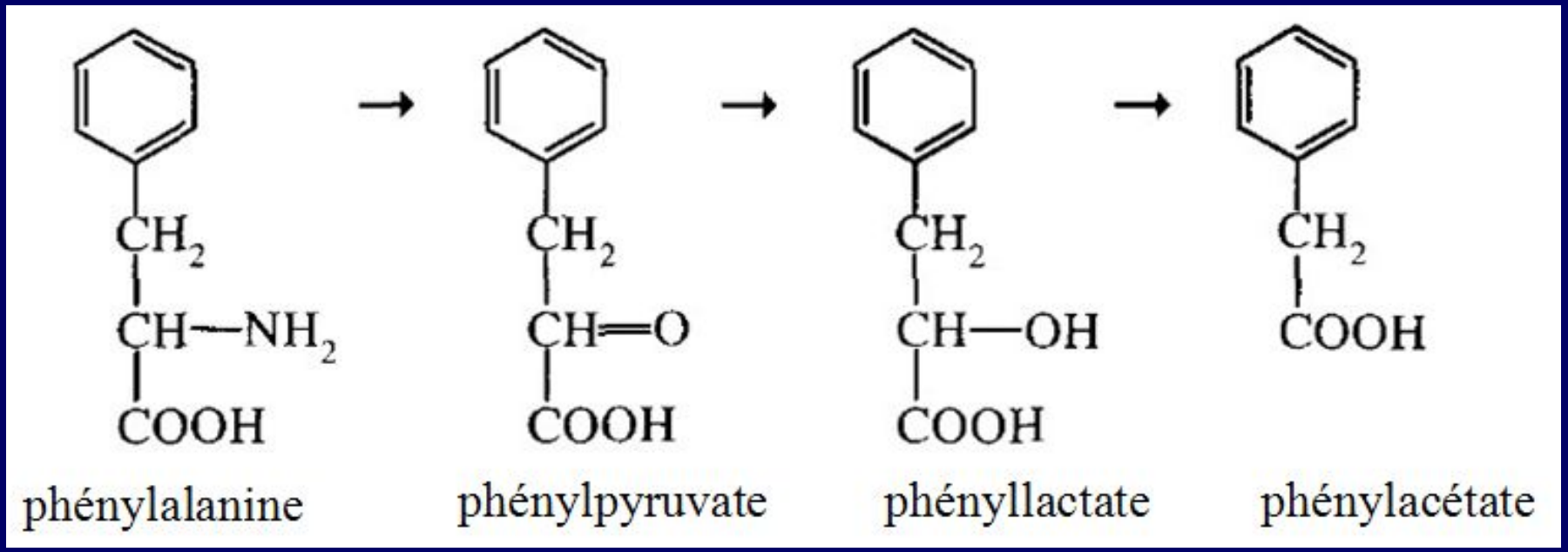
- LES ACIDES AMINÉS AVEC LA CHAîNE RAMIFIÉE

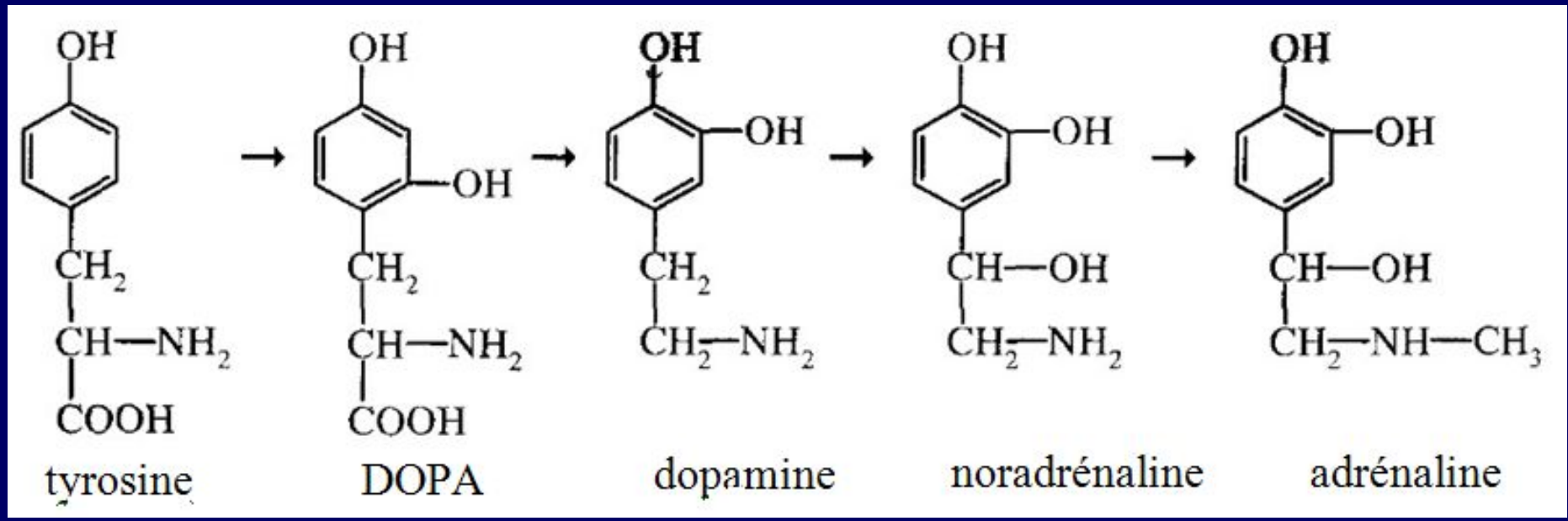
Leu, Ile, Val → a-céto-acides → l'acyl-CoA dérivés

- PHÉNYLALANINE ET TYROSINE



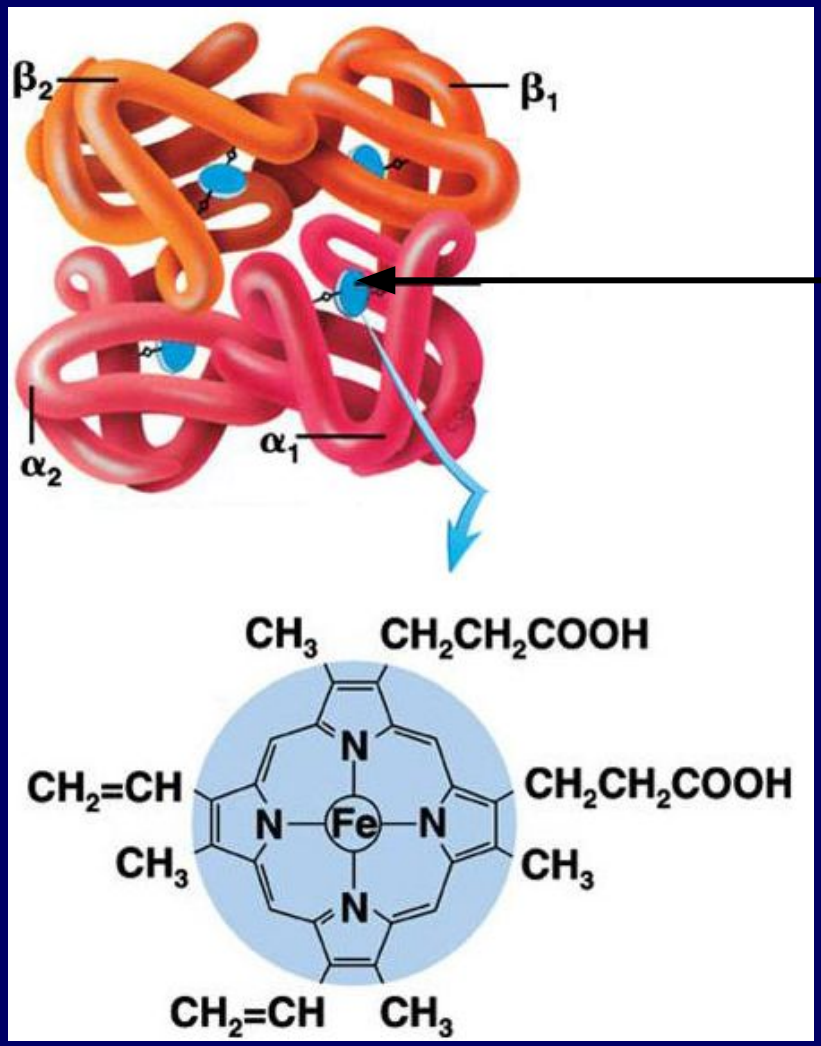

OH
CH2
CH—NH2
COOH
tyrosine
…
OH
CH2— COOH
OH
acide homogentisique
…
COOH
CH
CH
COOH
fumarate
+
CH3
C=O
CH2
COOH
acéto-acétate


phénylalanine
phénylpyruvate
phényllactate
phénylacétate

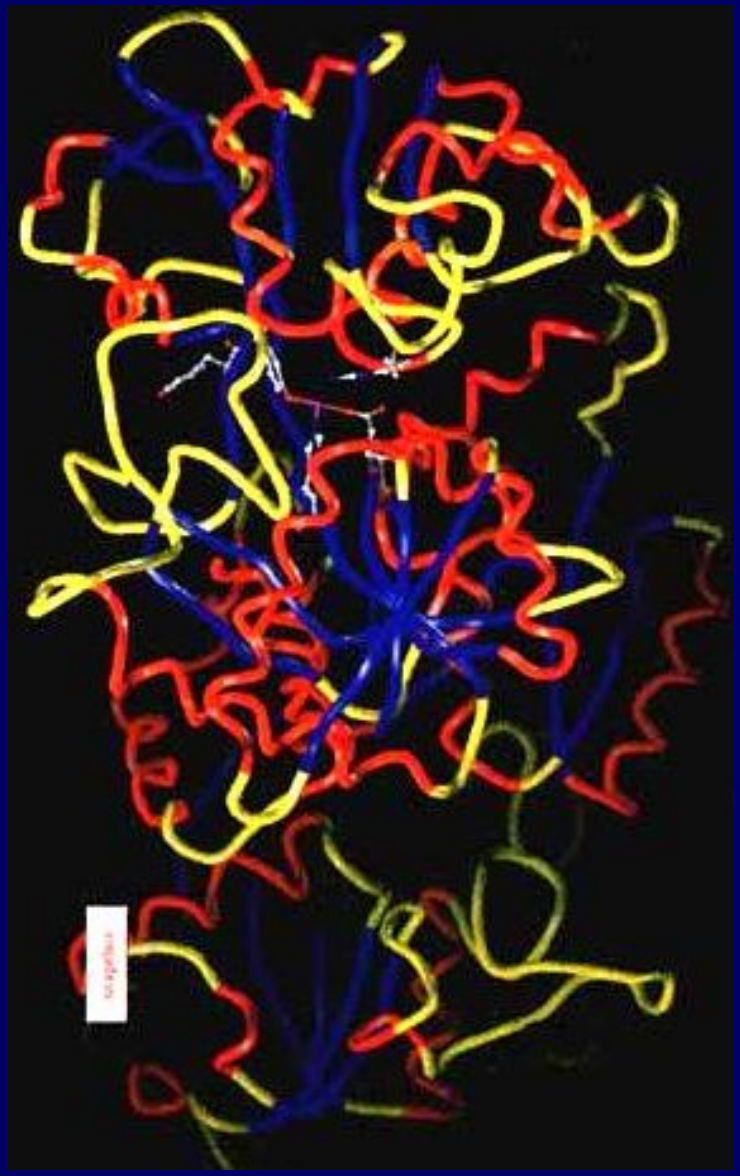

tyrosine
DOPA
dopamine
noradrénaline
adrénaline

MÉTABOLISME DES HÉMOPROTÉINES

STRUCTURE DE L`HÉMOGLOBINE

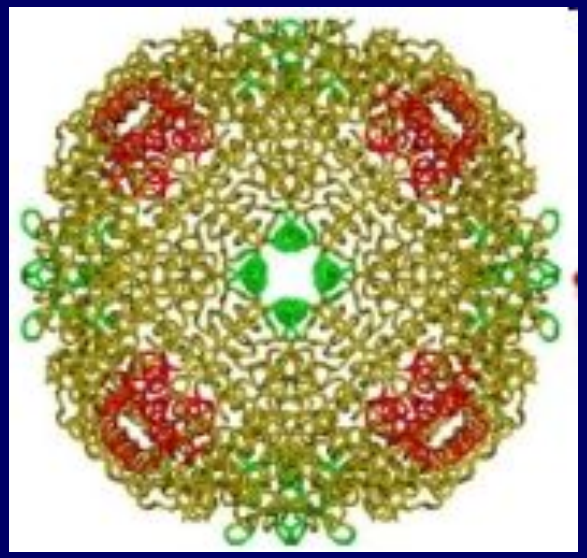


HÈME



TRANSFERRINE

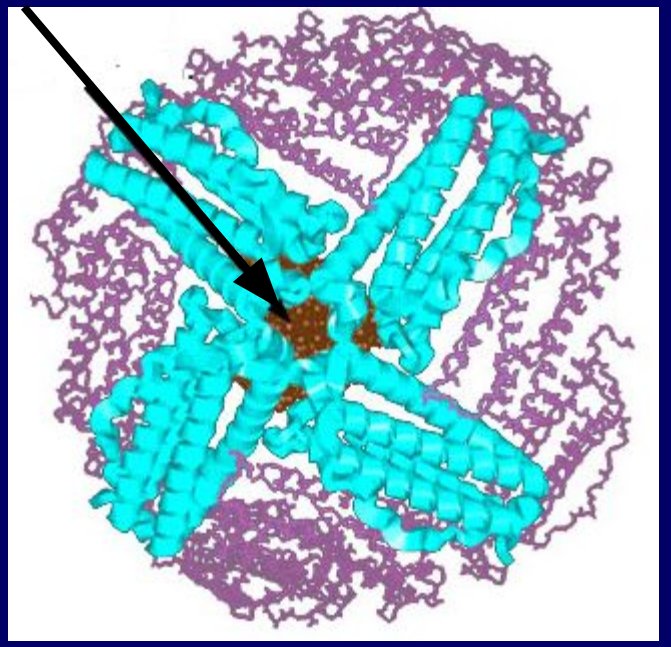
FORMATION DE LA FERRITINE



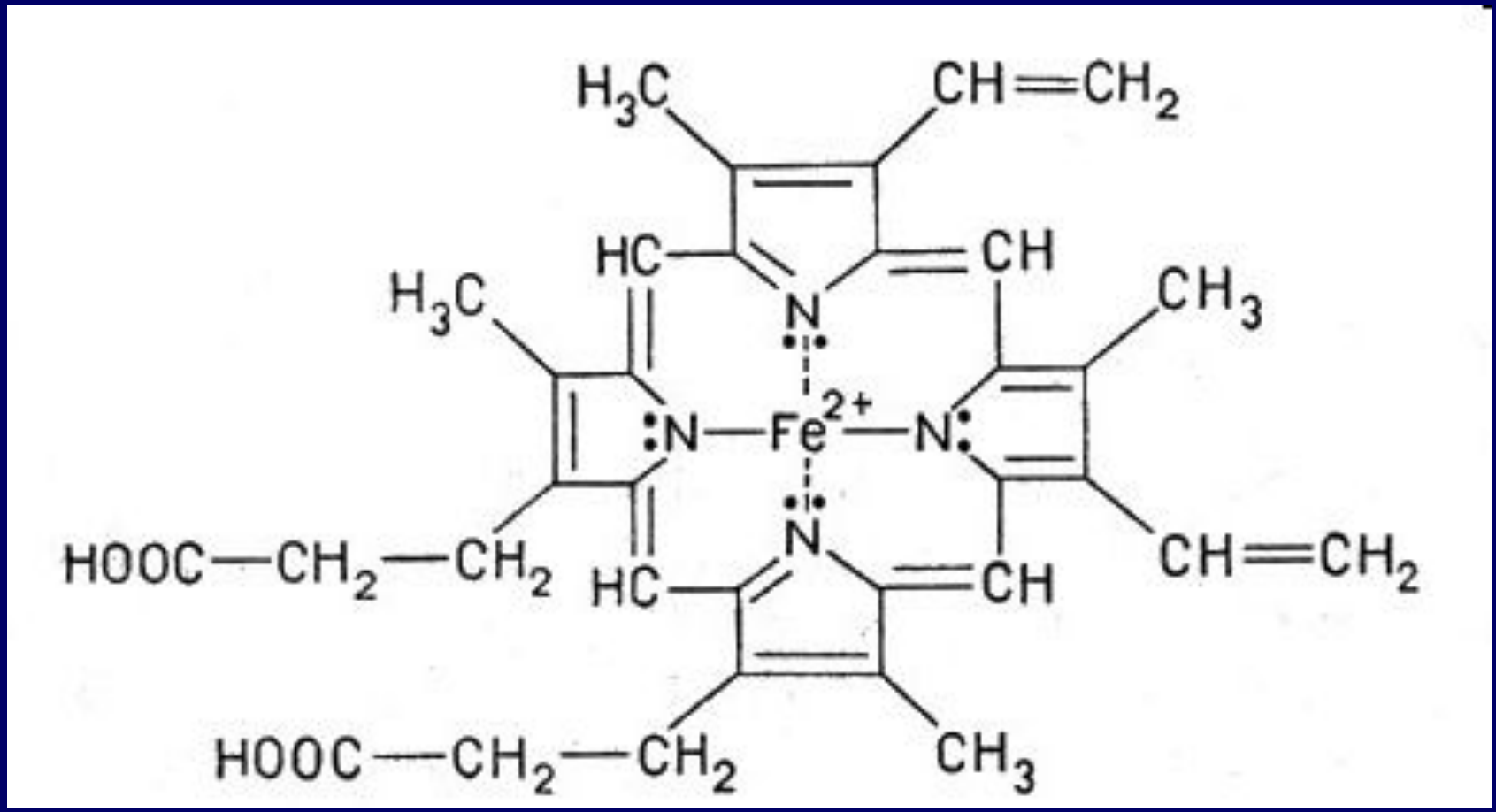
APOFERRITINE

+ Fe^{2+} ⟶

Fe^{2+}

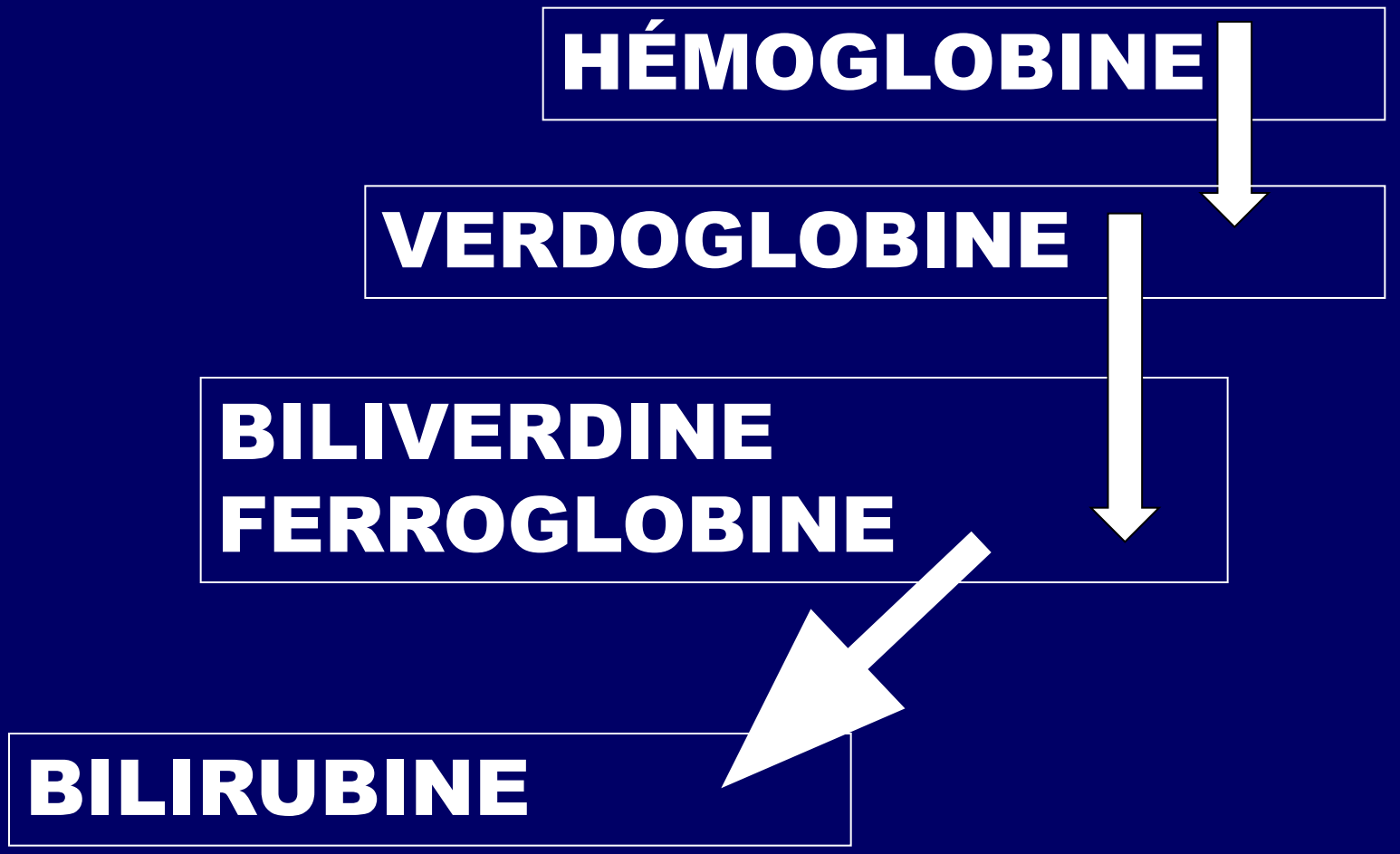


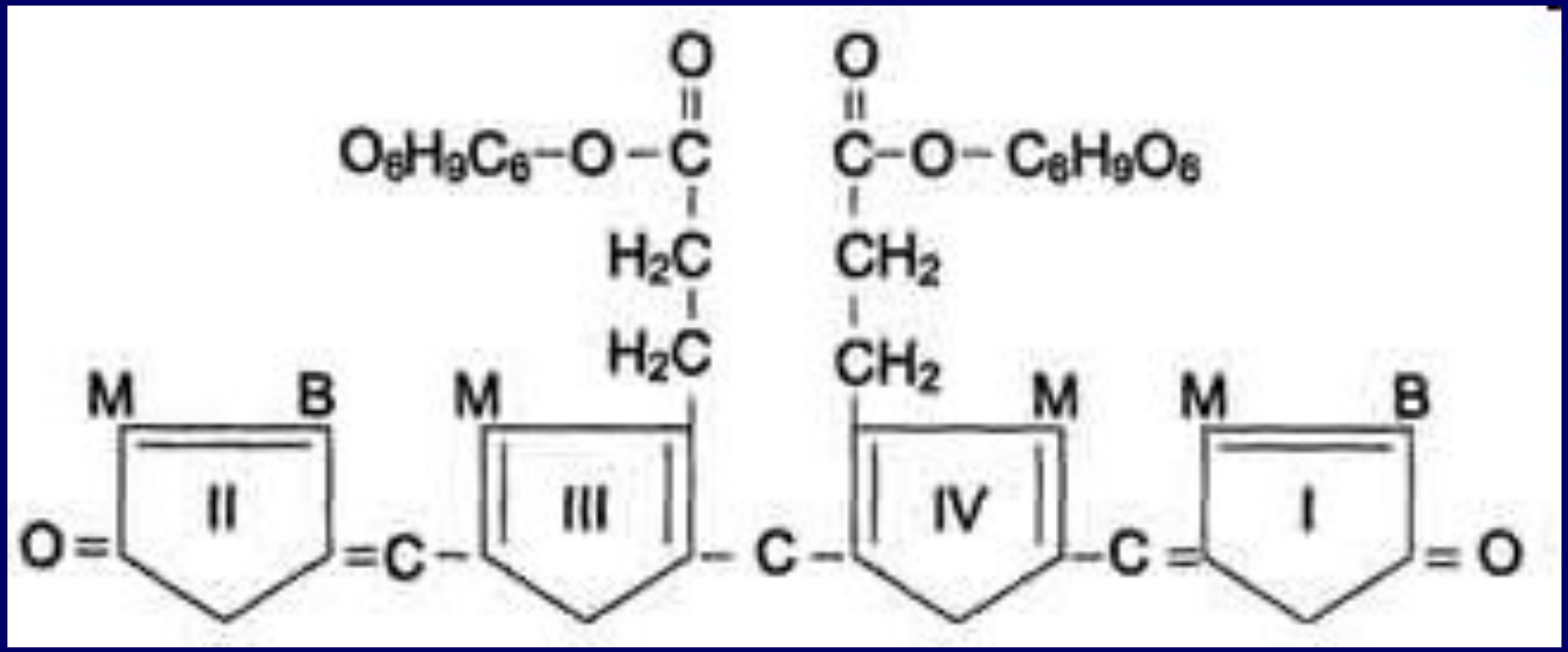
FERRITINE


H3C
CH=CH2
HC
CH
H3C
N
CH3
:N—Fe2+—N:
HOOC—CH2—CH2
HC
N
CH
CH=CH2
HOOC—CH2—CH2
CH3

HÈME

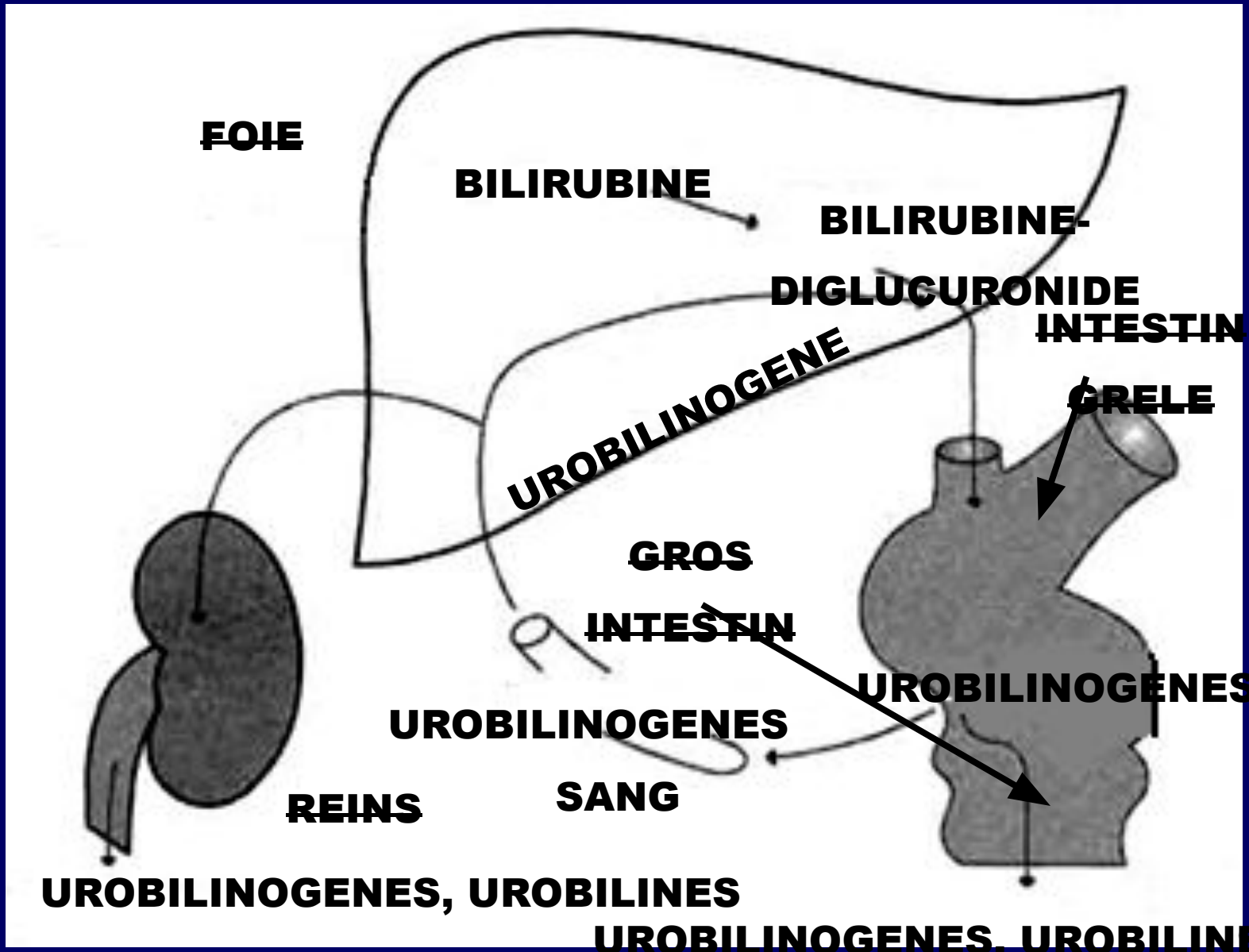
DÉCOMPOSITION DE L`HÉMOGLOBINE



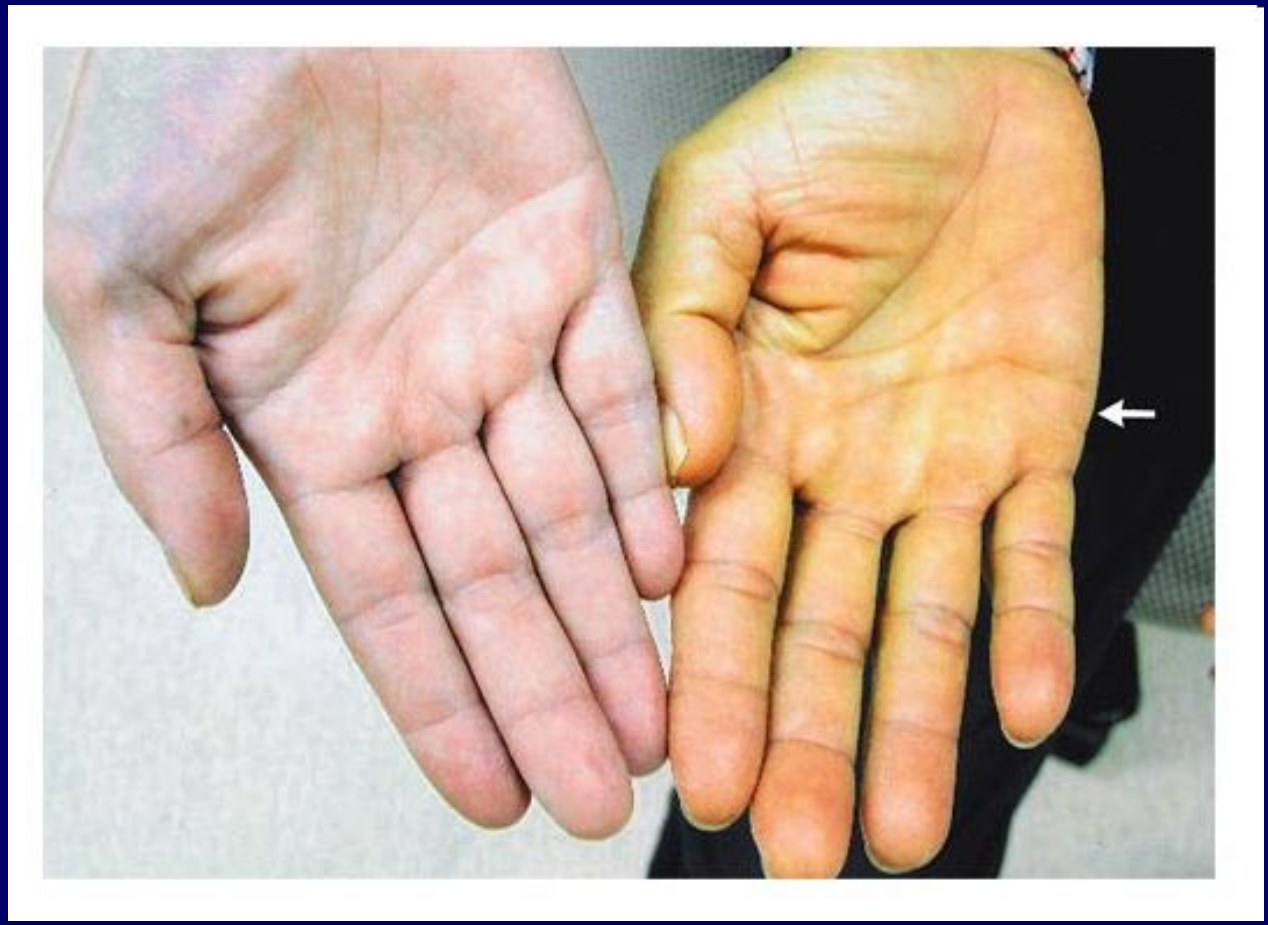


BILIRUBINE CONJUGUÉE (BILIRUBINEDIGLUCURONIDE)

MÉTABOLISME DE LA BILIRUBINE



TYPES DES ICTÈRES (DES JAUNISSES)



DIAGNOSTIC DIFFÉRENTIEL

TYPE DE JAUNISSE	SANG			URINE		SELLES
	BILIRUBINE			BILIRUBINE CONJUGUÉE	UROBILINOGÈNE	STERCOBILINOGÈNE
	TOTALE	NON-CONJUGUÉE	CONJUGUÉE			
HÉMOLYTI-QUE	↑	↑	N OU ↑	0	+	↑
PARENCHY-MATEUSE («CYTOLYTIQUE»)	↑	N OU ↑	↑	↑	0	0
OBSTRUCTIVE (MÉCANI-QUE)	↑	↑	↑	↑	+	↓

N – NORME; ↑ – AUGMENTATION; ↓ – ABAISSEMENT;

0 – N`EST PAS DÉTERMINÉE; + EST DÉTERMINÉE

SYNTHESE DE L`HÉMOGLOBINE

SUCCINYL-CoA + GLYCINE

↓

5-ACIDE AMINOLÉVULINIQUE

↓

PORPHILIBILINOGÈNE

↓

HÈME + GLOBINE

↓

HÉMOGLOBINE

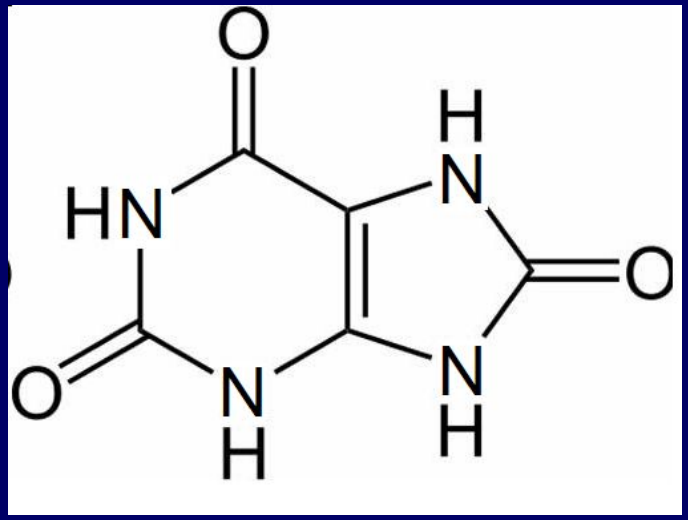
MÉTABOLISME DES NUCLÉOPROTÉINES

DÉCOMPOSITION DES NUCLÉOSIDEPHOSPHATES

DÉCOMPOSITION DES BASES PURIQUES

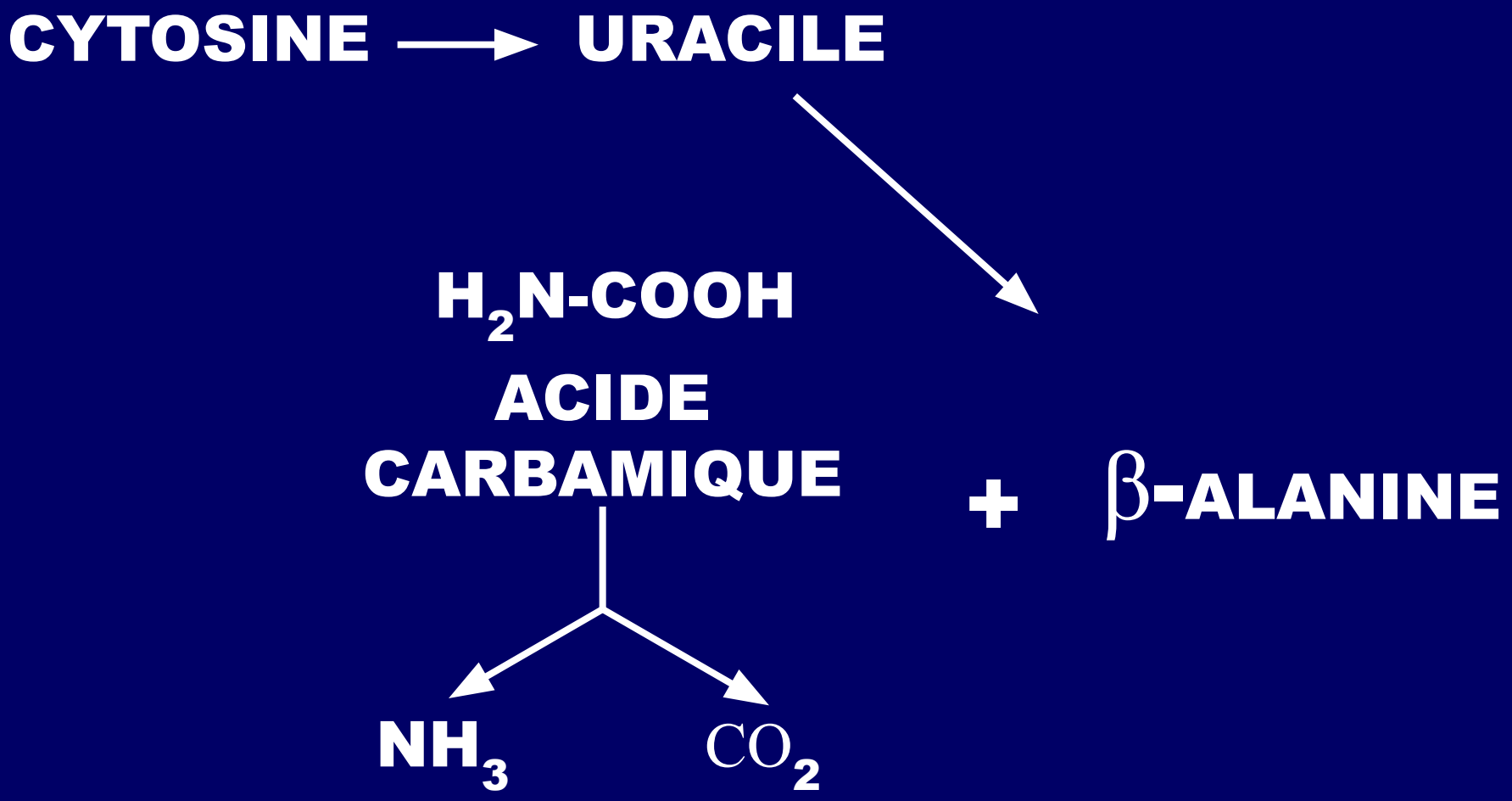
ADÉNINE → HYPOXANTHINE

GUANINE → XANTHINE



ACIDE URIQUE

DÉCOMPOSITION DES BASES PYRIMIDIQUES

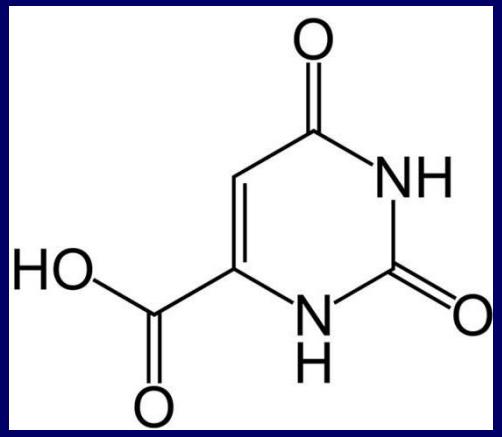


SYNTHÈSE DES NUCLÉOTIDES PYRIMIDIQUES

CO_2 + Gln + 2ATP + $2H_2O$ →

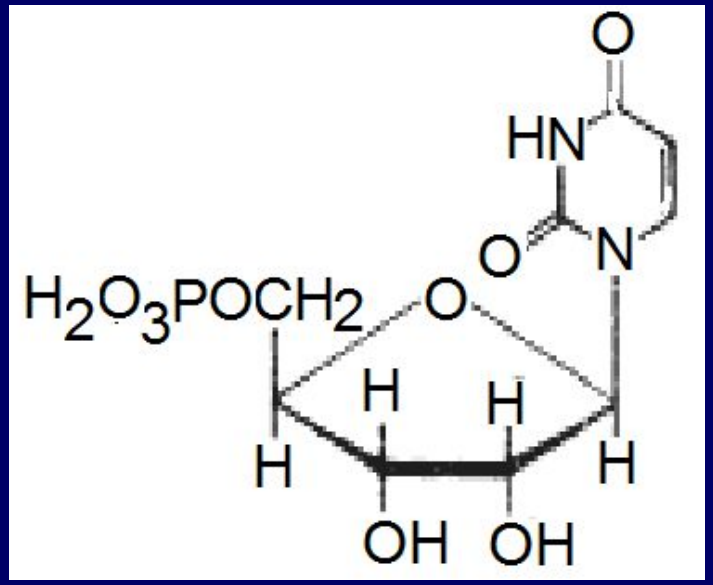
→ $H_2N\text{-}CO\text{-}OPO_3H_2$ + Glu + 2ADP + P

$H_2N\text{-}CO\text{-}OPO_3H_2$ + Asp → ... →

→ 

OROTATE

→ ... →

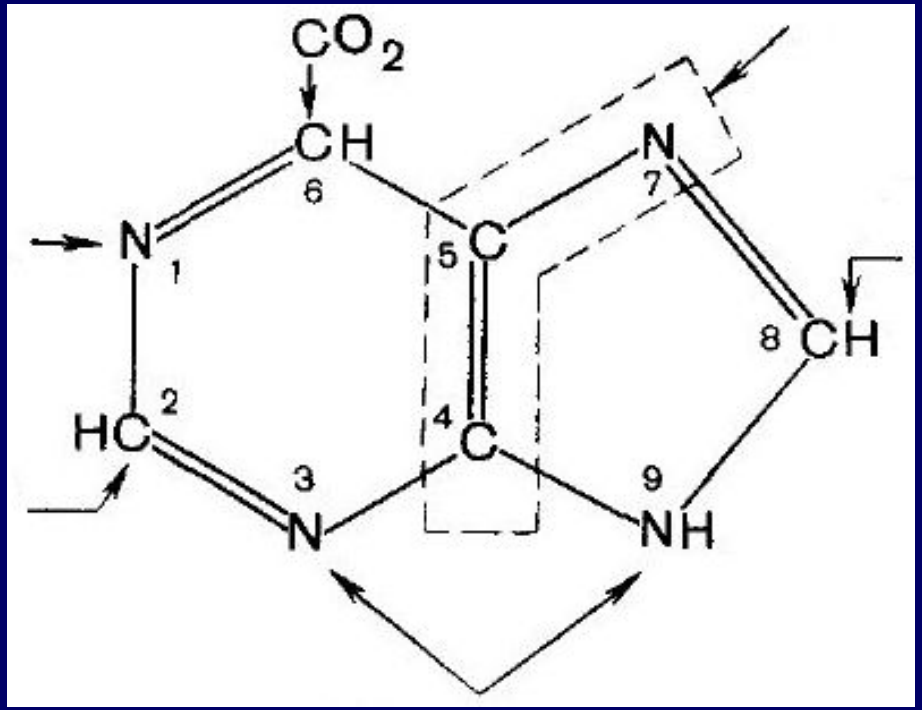


ACIDE NURIDYLIQUE

BIOSYNTHÈSE DES BASES PURIQUES

GLYCINE

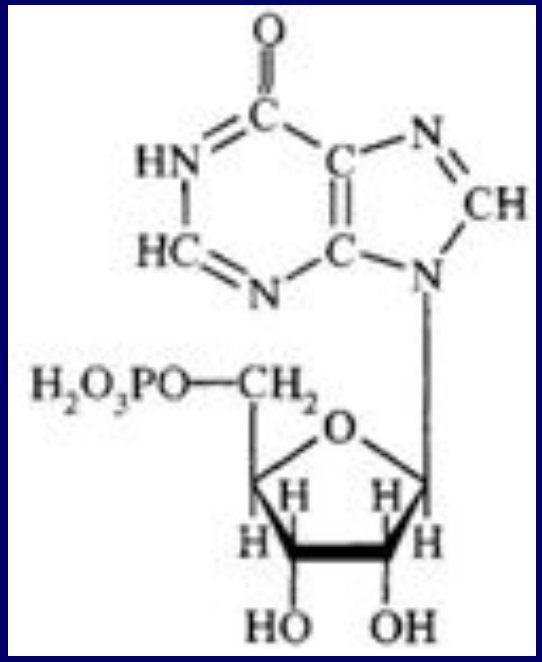
ASPARTATE



N^5,N^{10}=CH-ATHF

N^{10}-CHO-ATHF

AZOTE AMINE DE GLUTAMINE



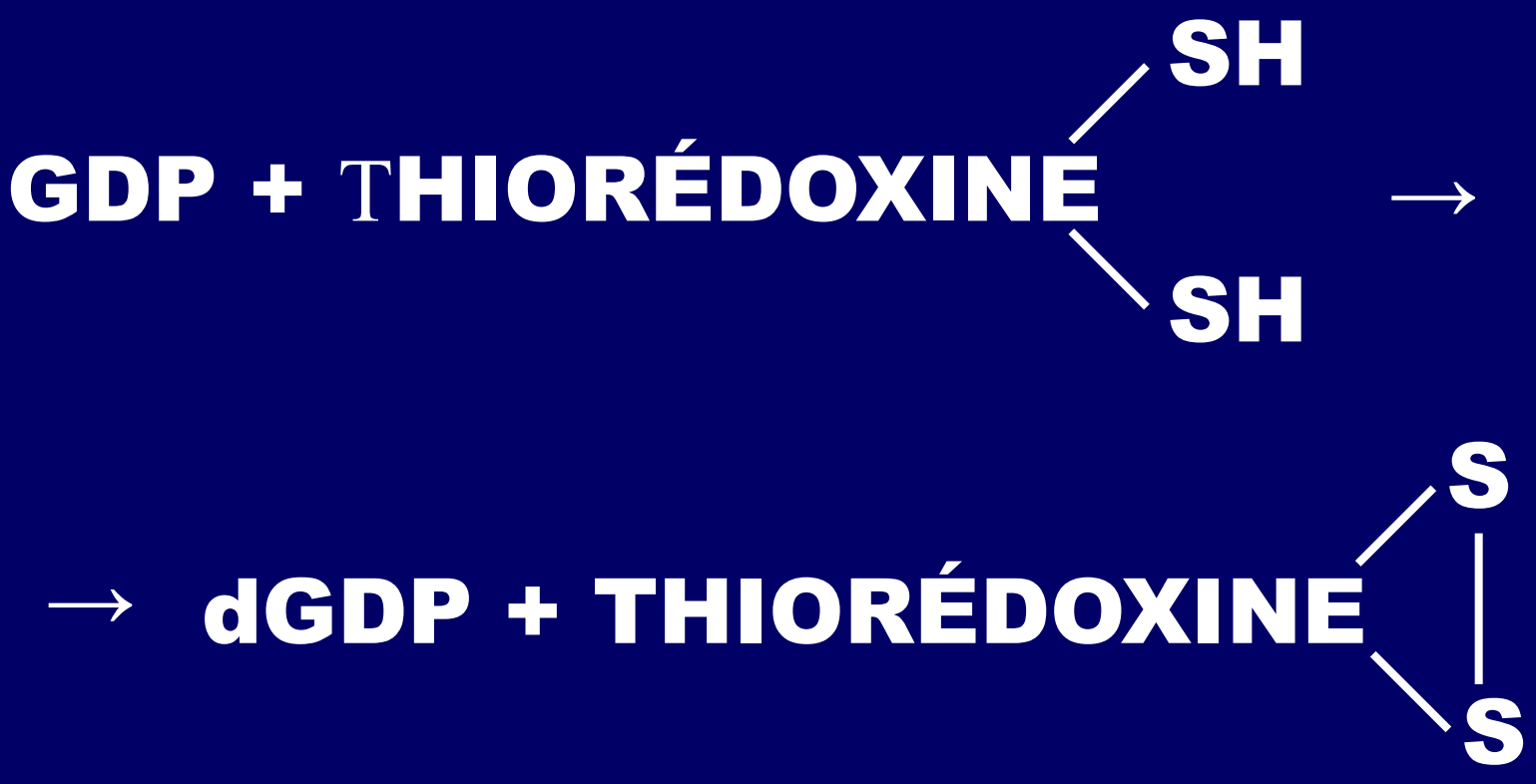
ACIDE INOSINIQUE

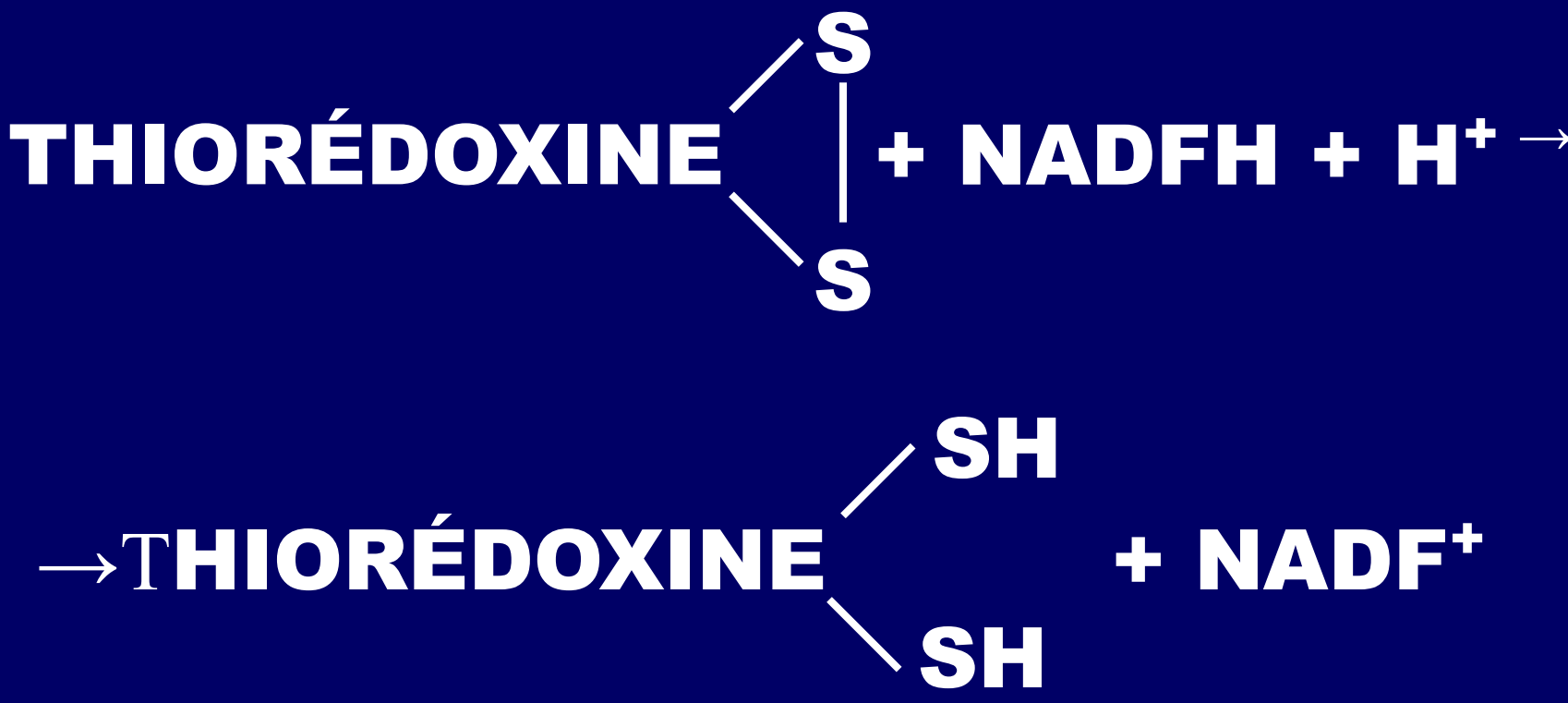
Inosine-5'-phosphate —(NAD+)→ **Xanthosine-5'-phosphate**

Inosine-5'-phosphate + Asp + GTP → **Adénosine-5'-phosphate** (– fumarate, -GDP, $-P_H$)

Xanthosine-5'-phosphate + Gln + ATP → **Guanosine-5'-phosphate** (– glu, -AMP, $-PP_H$)

SYNTHÈSE DES DÉSOXYRIBONUCLÉOTIDES





dGDP + ATP → dGTF + ADP