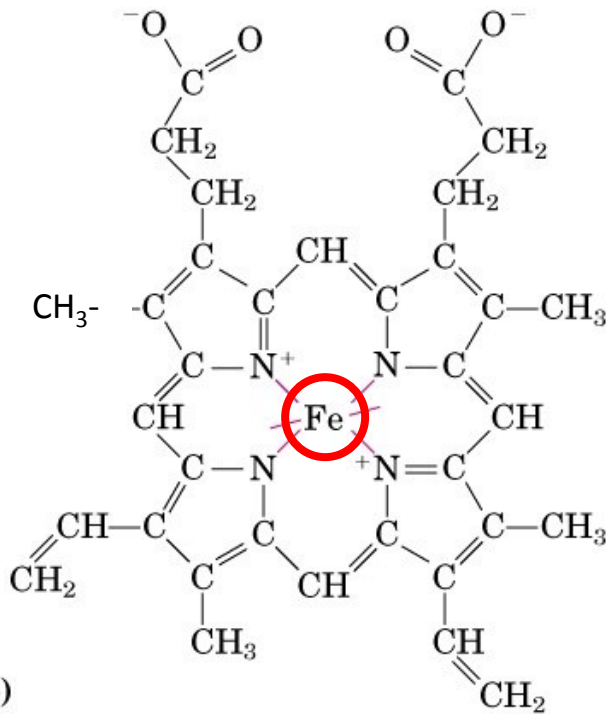
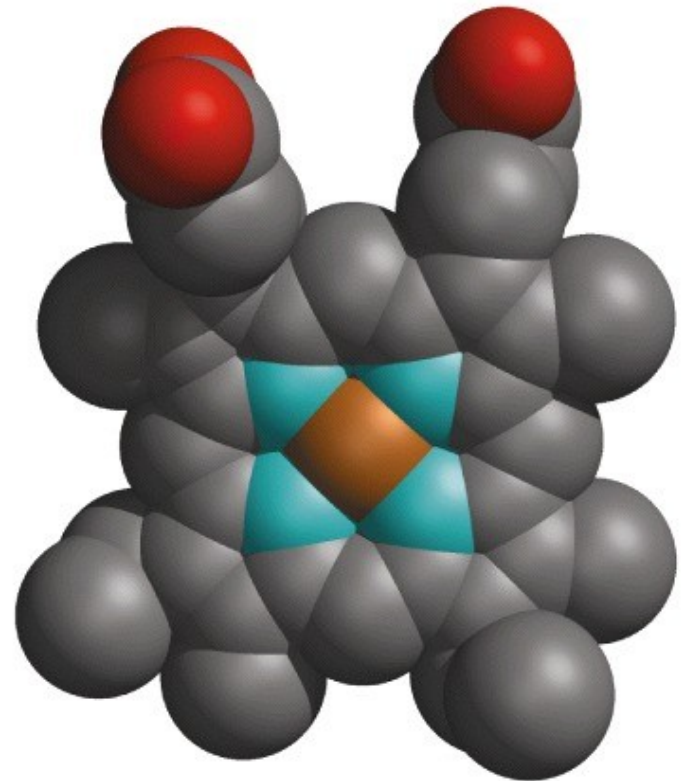


Metabolisme Porphyrin

HEME



(b)

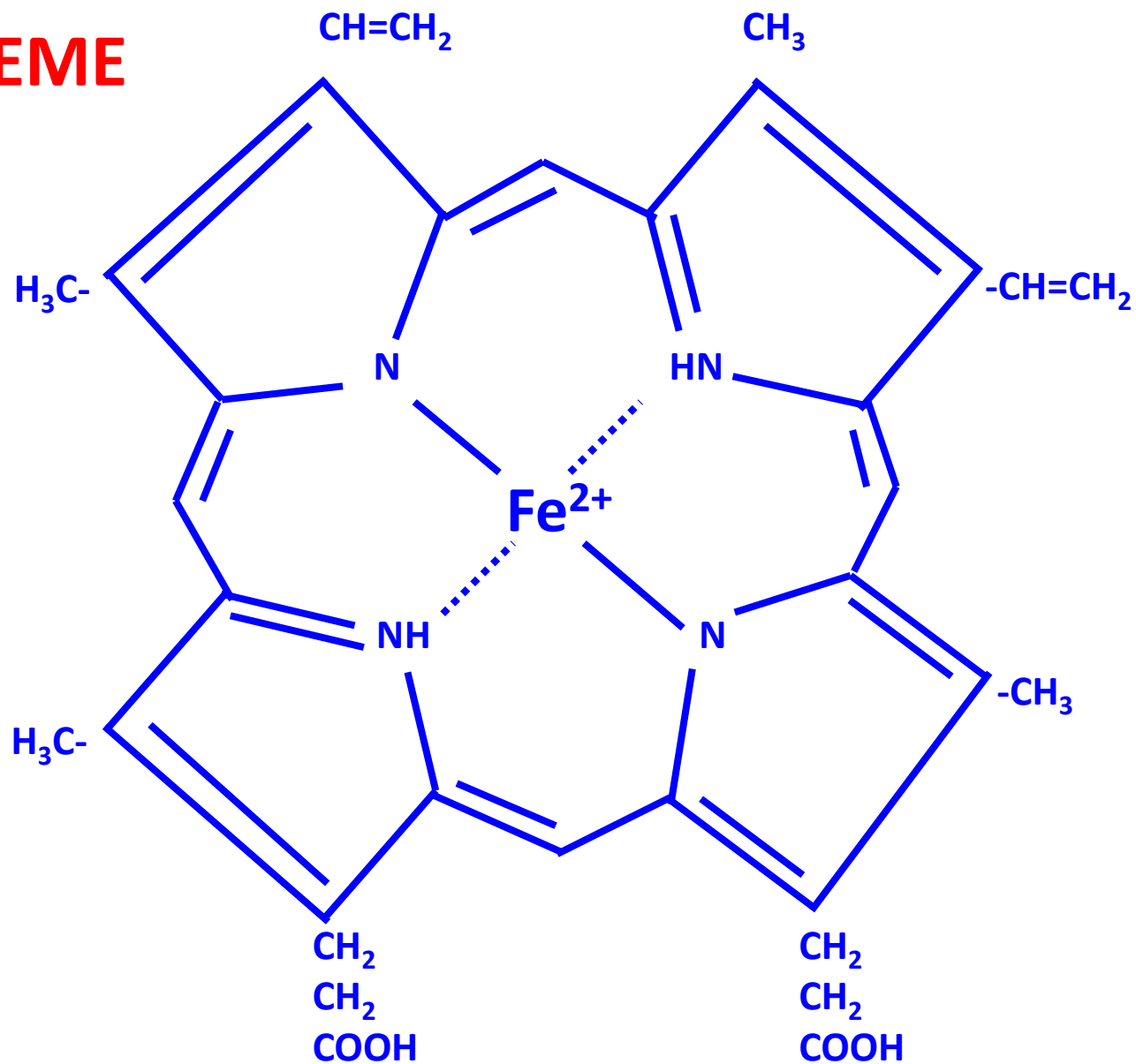


(c)

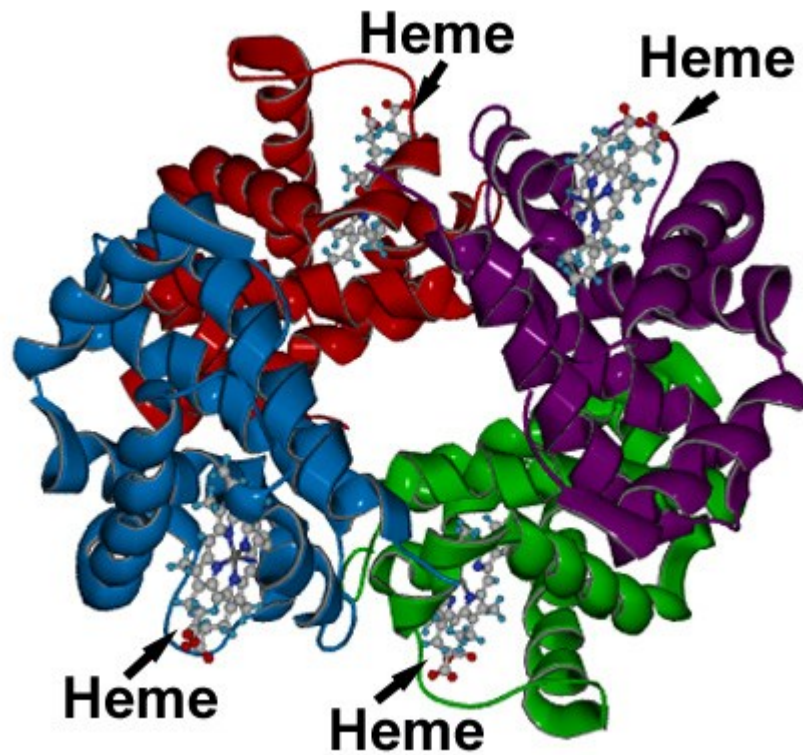
Degradation of Heme

- At end of their 120 day lifespan, red blood cells are taken up and degraded by the reticuloendothelial (RE) system (liver and spleen)
- 85% heme for degradation from RBC
- 15% immature RBC, cytochromes from extraerythroid tissues

HEME

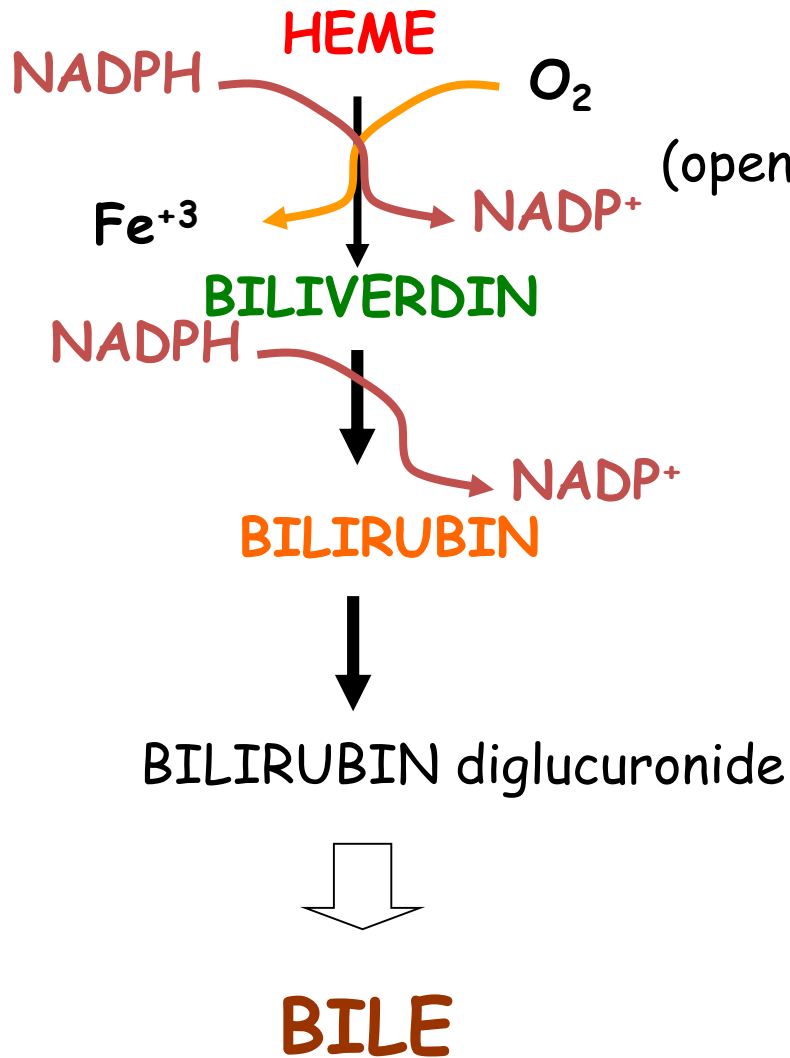


Haemoglobin

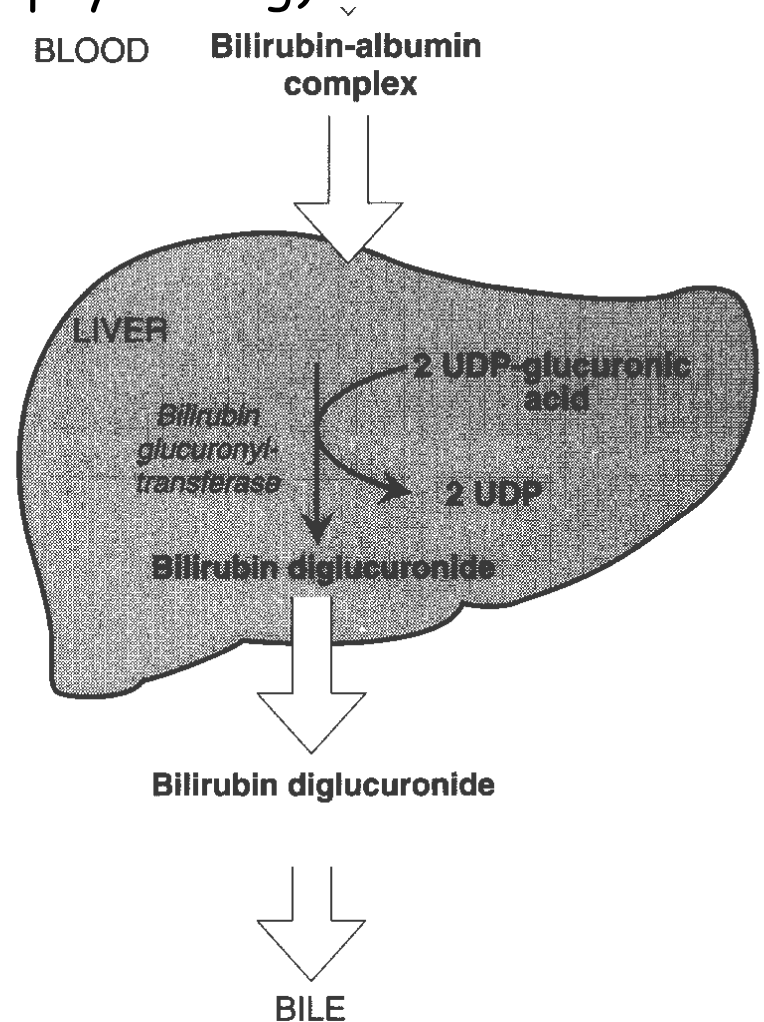


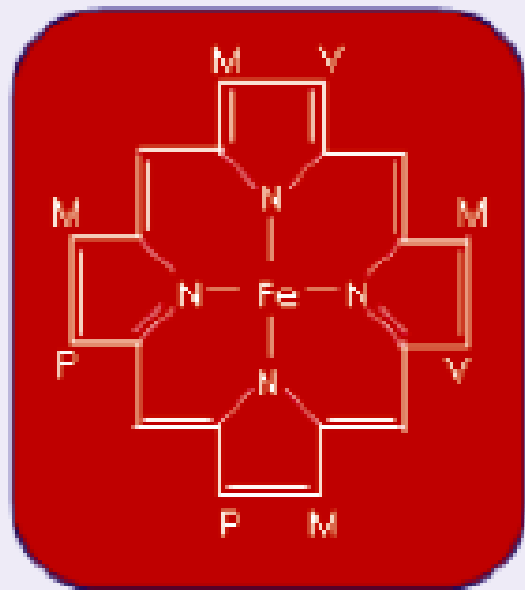
Iron store: 1800mg

Heme Degradation

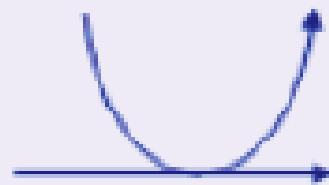


Heme Catabolism

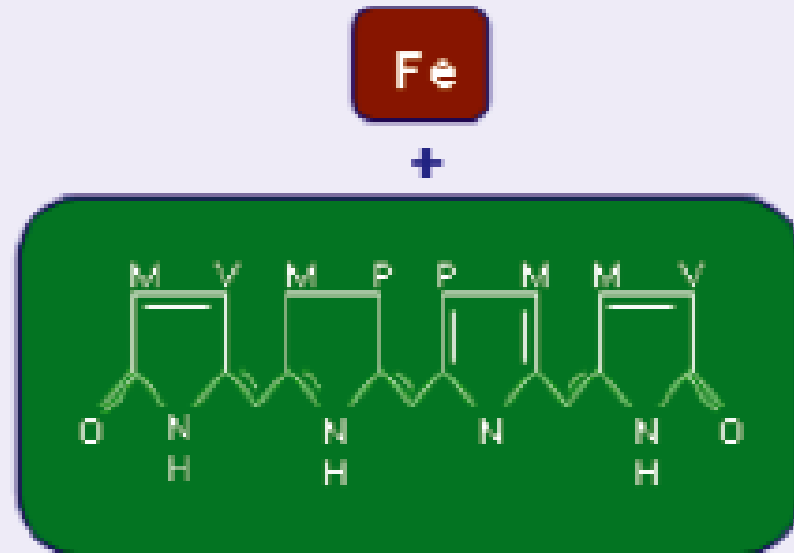




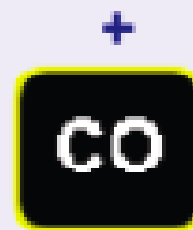
Heme



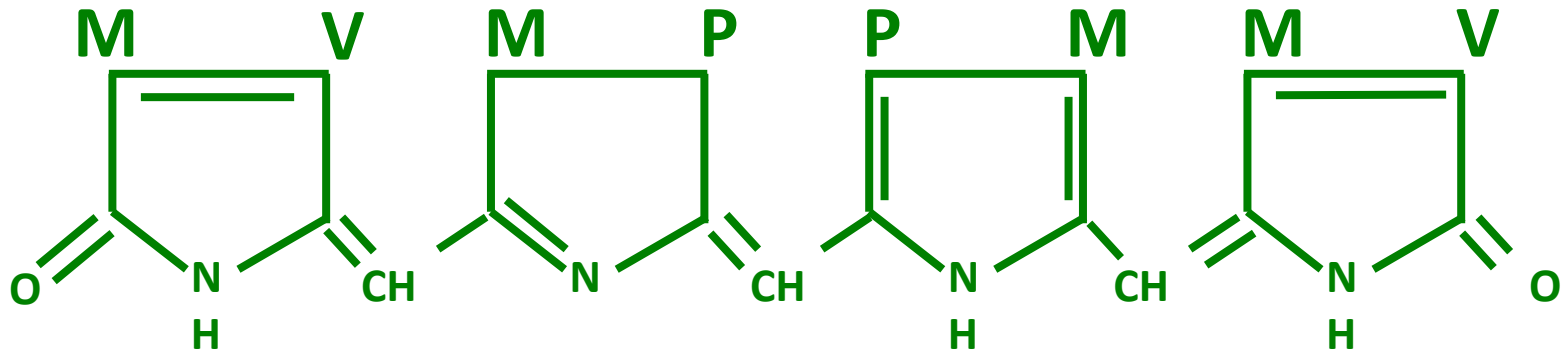
**Heme
Oxygenase**



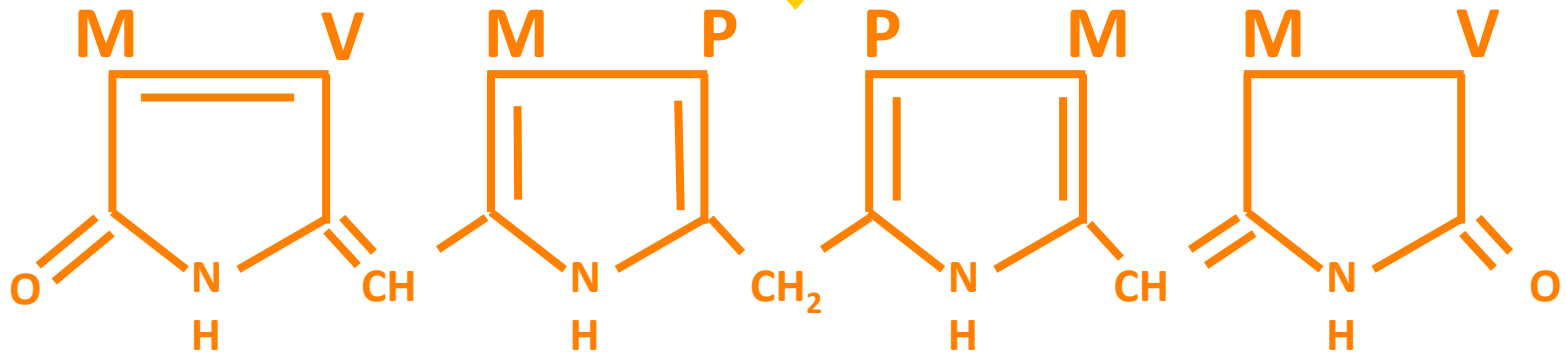
Biliverdin



BILIVERDIN

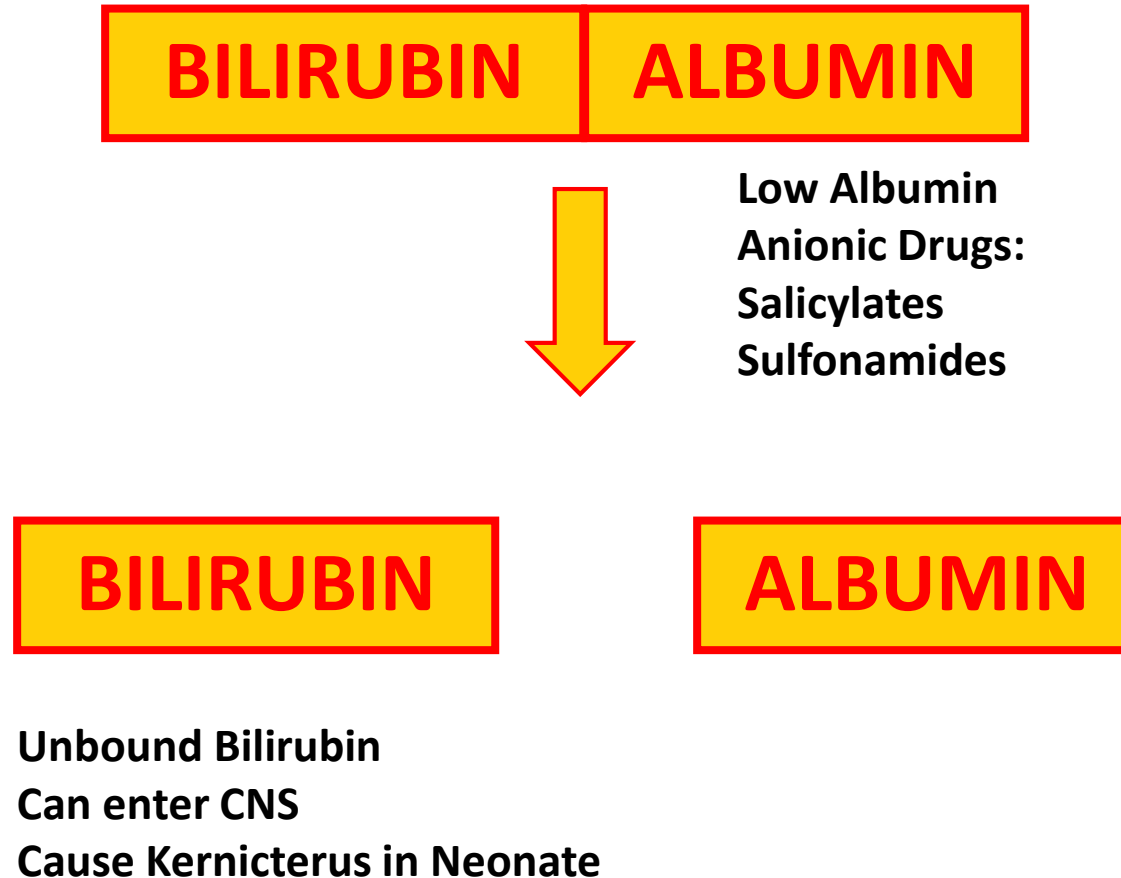


BILIVERDIN REDUCTASE
+ NADPH



BILIRUBIN

Bilirubin Released from Macrophage, binds to Albumin in the Plasma



BILIRUBIN

ALBUMIN



LIVER

BILIRUBIN

LIGANDIN

CONJUGATION with
2 Molecules
Glucuronic Acid from
UDP-glucuronic acid

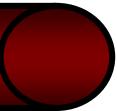


**Bilirubin
Glucuronyltransferase**

Bilirubin Diglucuronide

**Active
Transport**

BILE



VAN DEN BERGH COLORMETRIC REACTION

TOTAL BILIRUBIN: Soluble in Methanol

BILIRUBIN: Unconjugated (Indirect)

Less Soluble in Aqueous Solution, reacts more slowly

LIVER

CONJUGATION

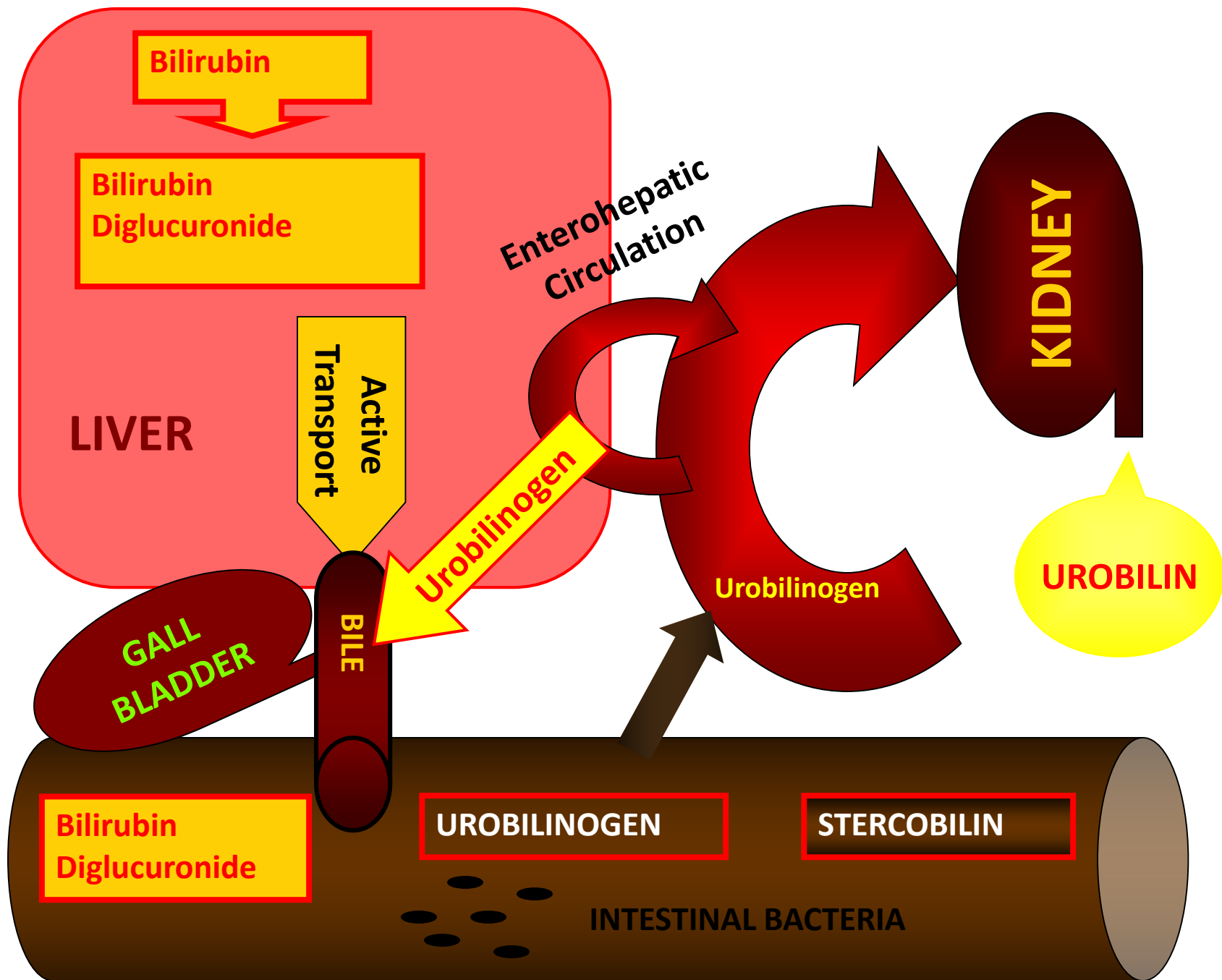


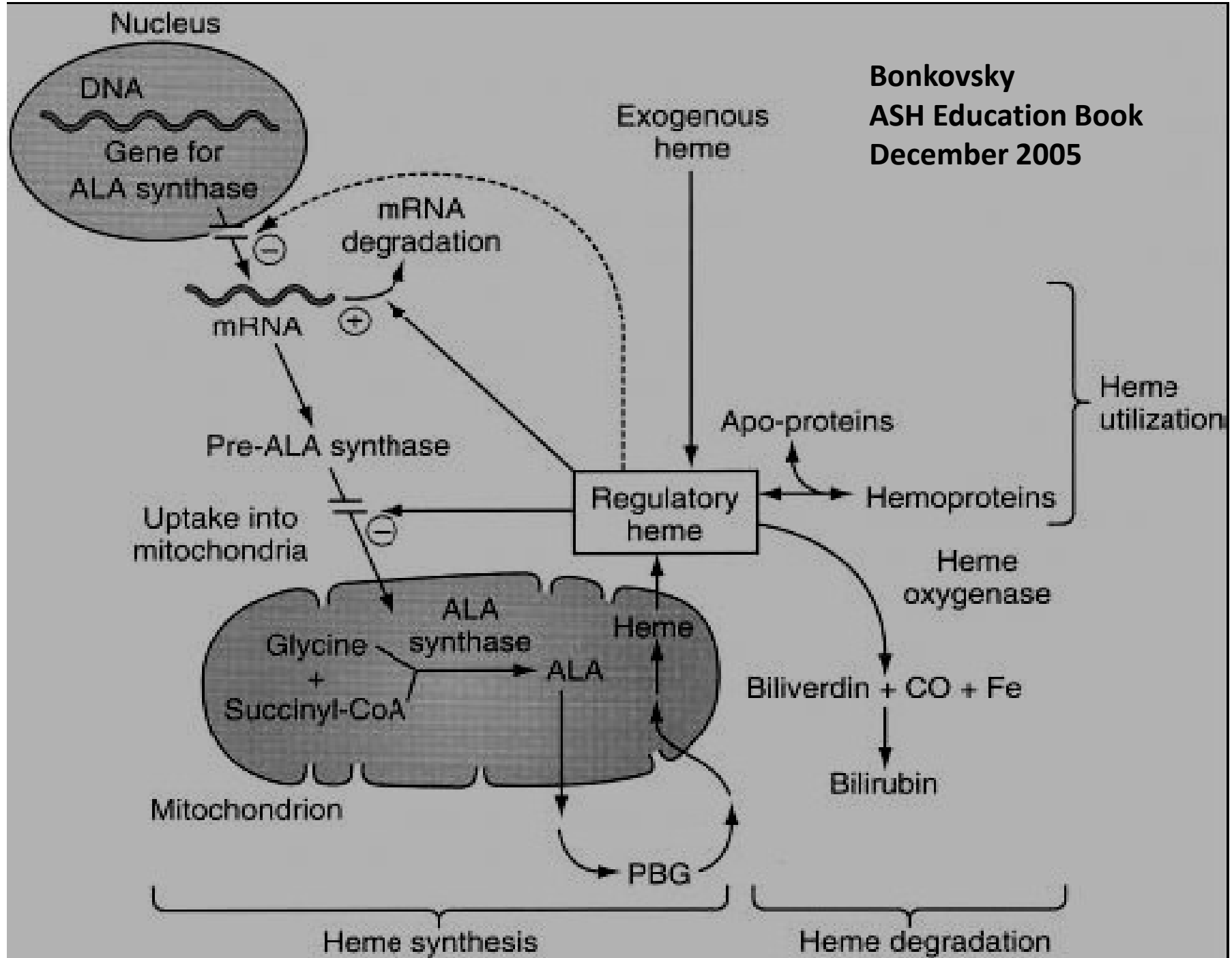
Bilirubin

Glucuronyltransferase

**Bilirubin Diglucuronide:
Conjugated (Direct) Bilirubin**

More Soluble, reacts more quickly





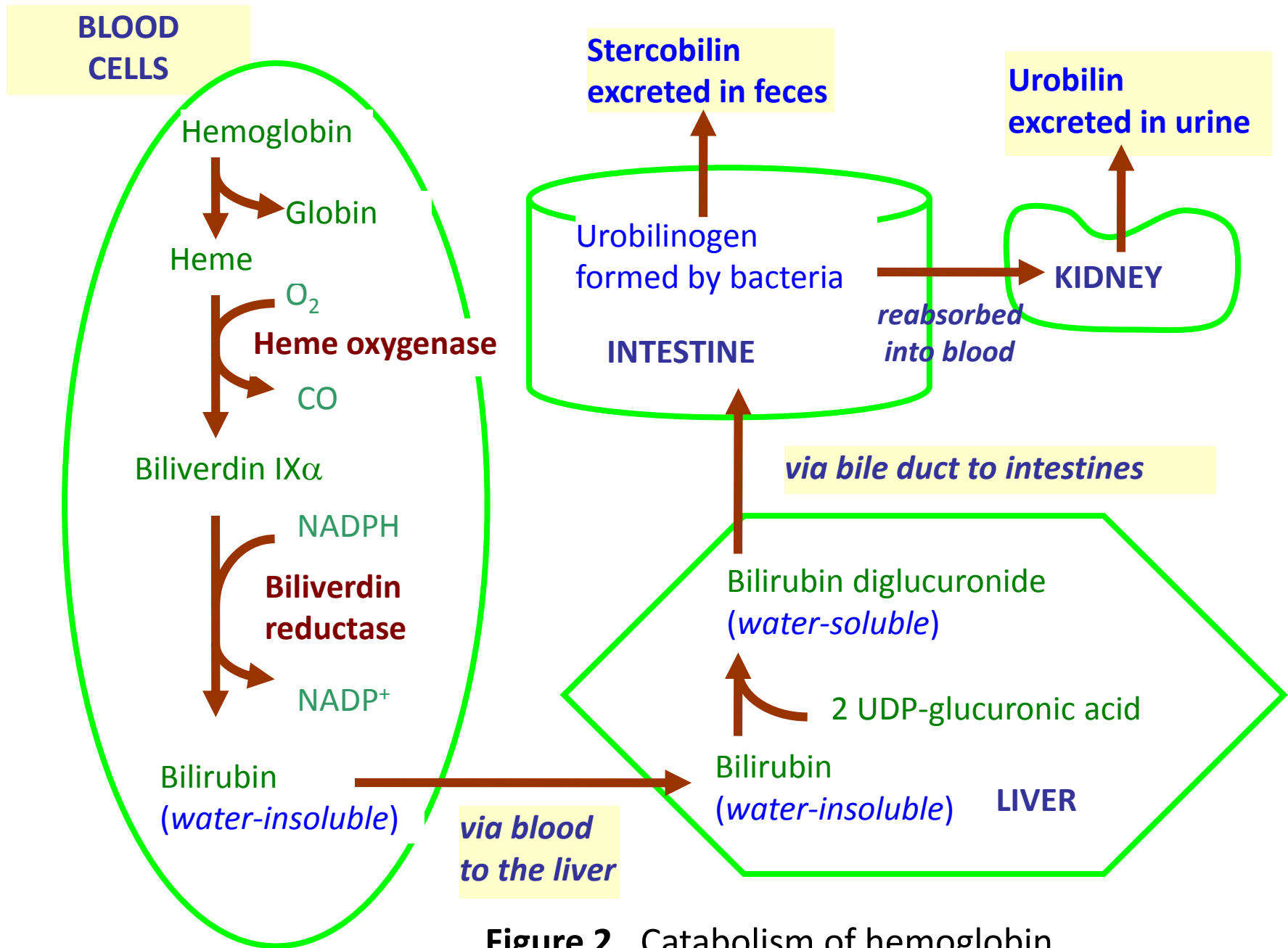


Figure 2. Catabolism of hemoglobin

Figure 3. Examples of hyperbilirubinemia

