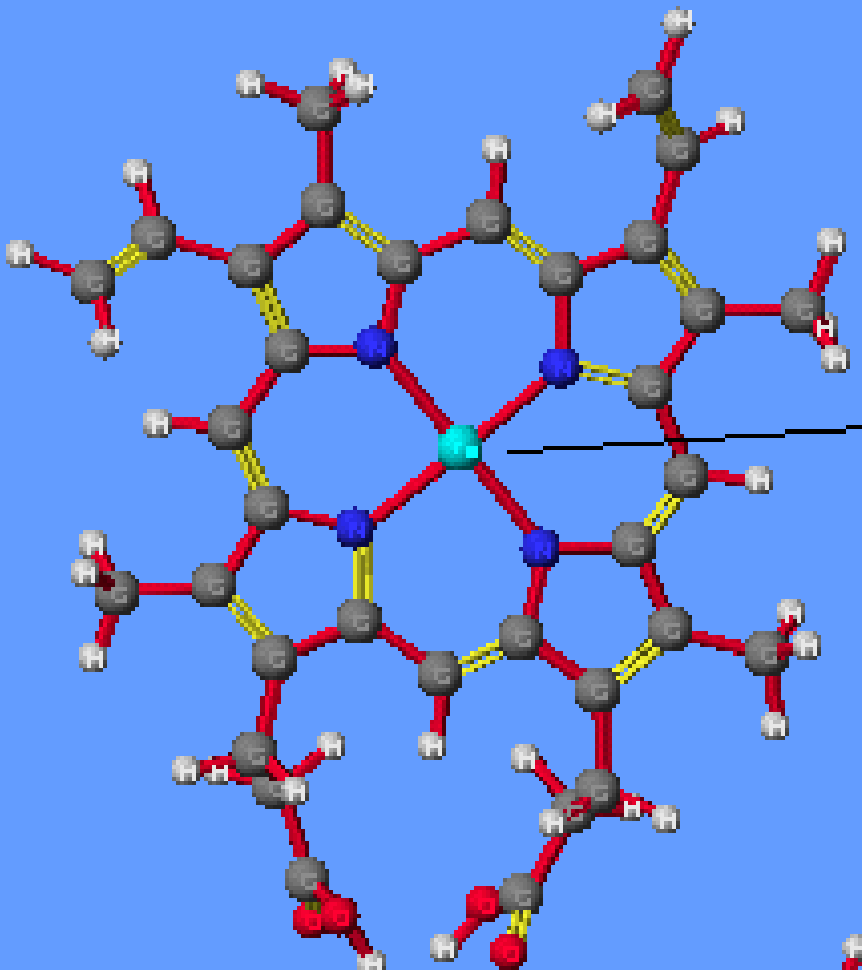
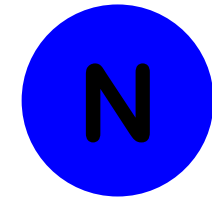
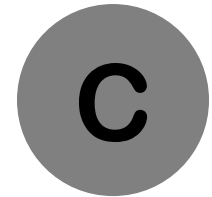
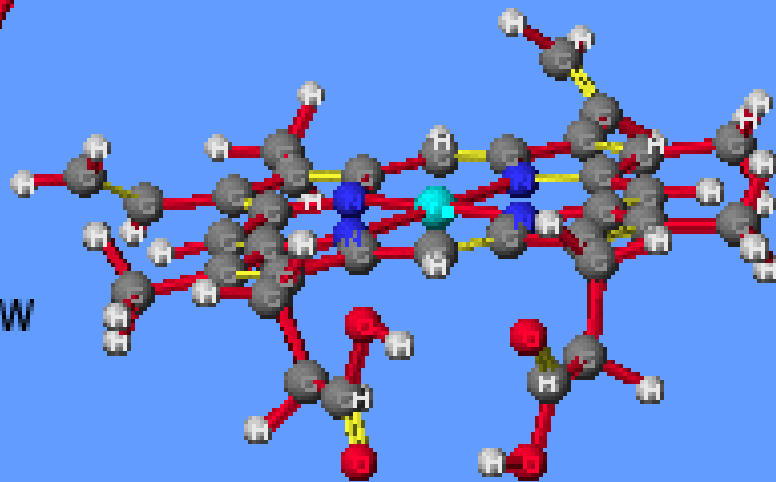


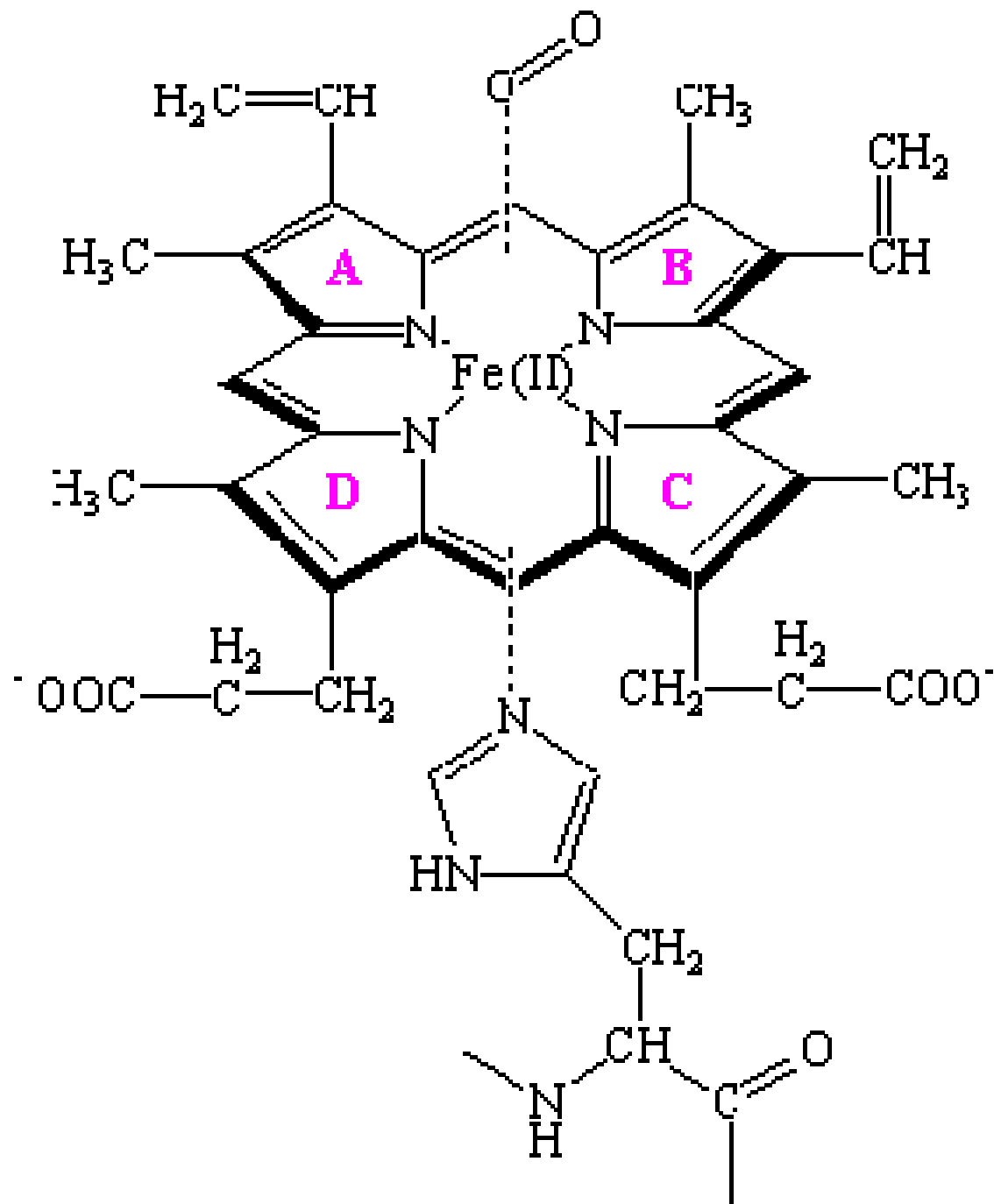
Heme Group





Iron +2 ion

Edge View





Home Pregnancy Test



	Pregnant	Not Pregnant
Test is positive		False Positive
Test is negative	False Negative	

Which is worse – false negatives, or false positives?

Presumptive or "Screening" Tests

- Very low False Negative rate
 - High False Positive rate
- If positive:
 - Do additional, usually different, tests

Kastle-Meyer Test

	Is Blood	Isn't Blood
Test is positive (says is blood)		False Positive
Test is negative (says it isn't)	False Negative	

**Add
Phenolphthalein
(K-M Reagent)**

Turns Pink

**Probably
not blood**

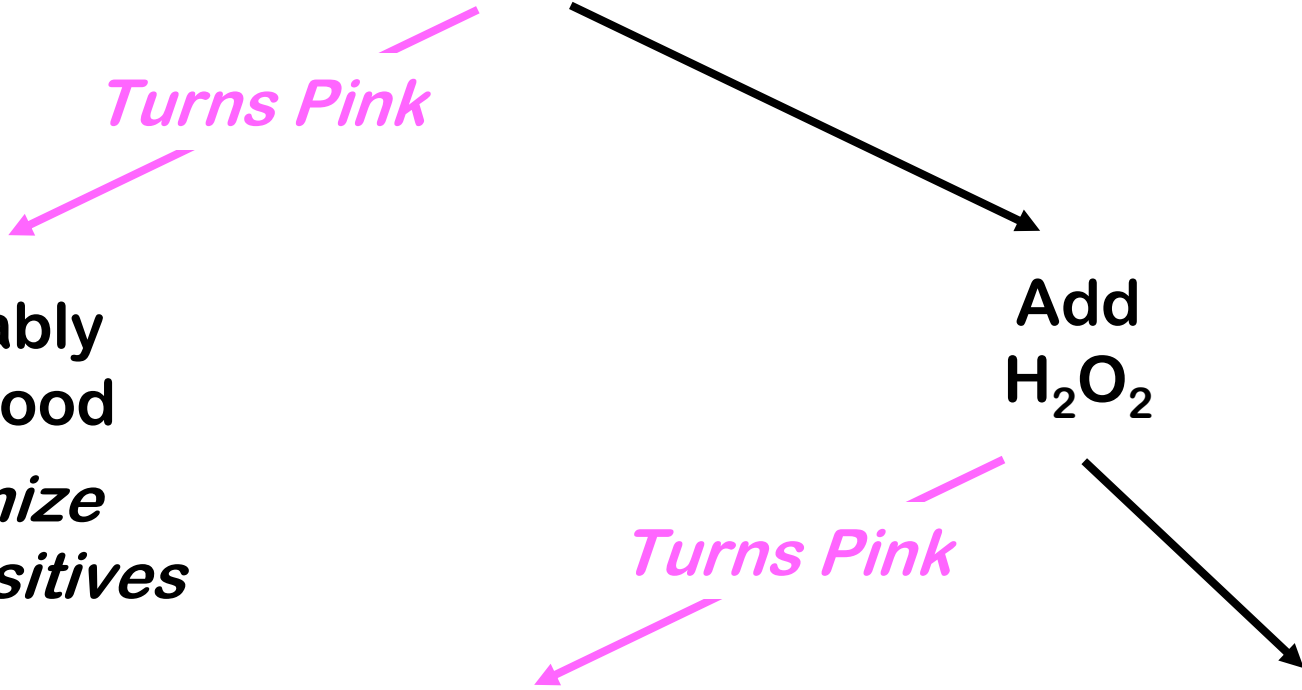
*minimize
false positives*

**Add
H₂O₂**

Turns Pink

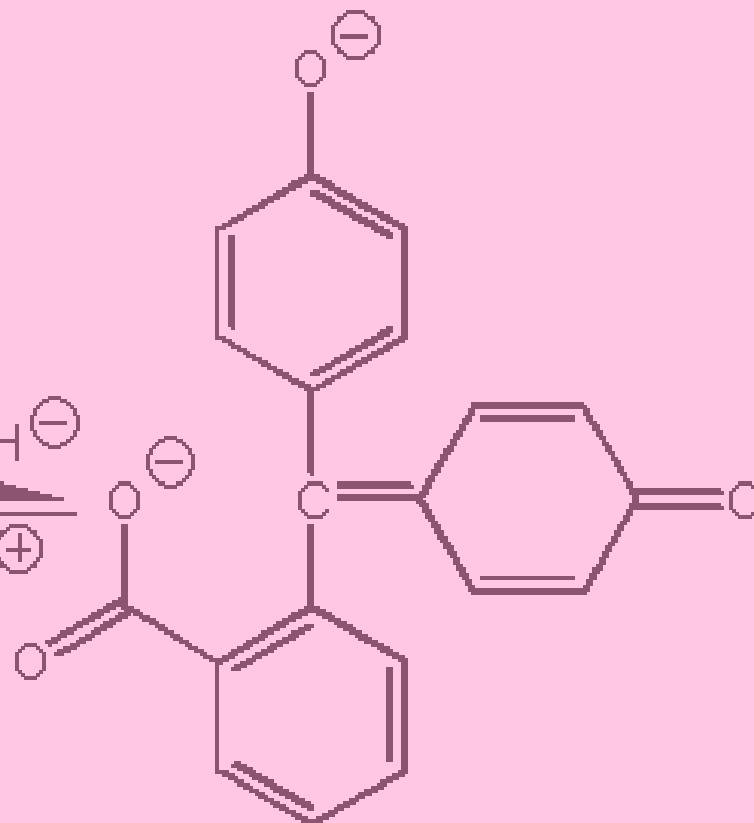
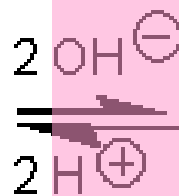
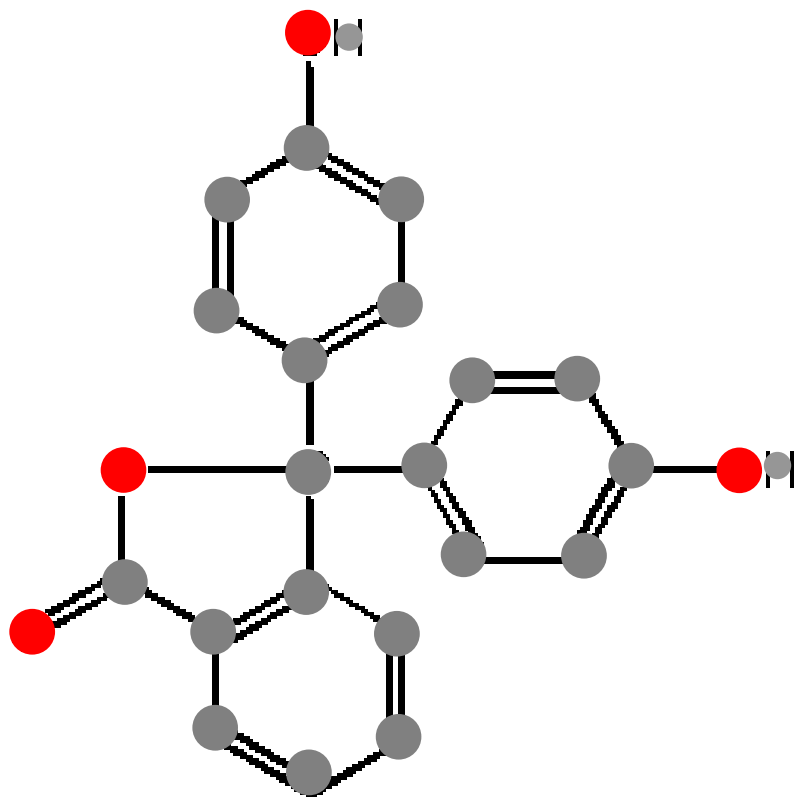
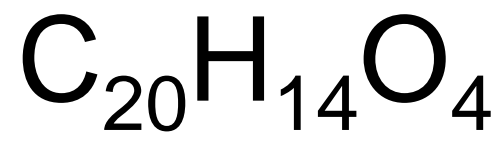
**Probably
blood**

**Not
blood**



Kastle-Meyer Test

1. Liquify sample with distilled water
2. Add phenolphthalein (K-M reagent) to sample



Kastle-Meyer Test

1. Liquify sample with distilled water
2. Add phenolphthalein to sample
 - Pink indicates something is stealing P's H atoms – blood doesn't
3. Add hydrogen peroxide (H_2O_2) to sample
 1. Fe ions in heme groups bust up the H_2O_2
 2. O's bond to Fe ions, leaving OH^- and H^+
 3. OH^- steals P's H to make water
 4. P turns pink