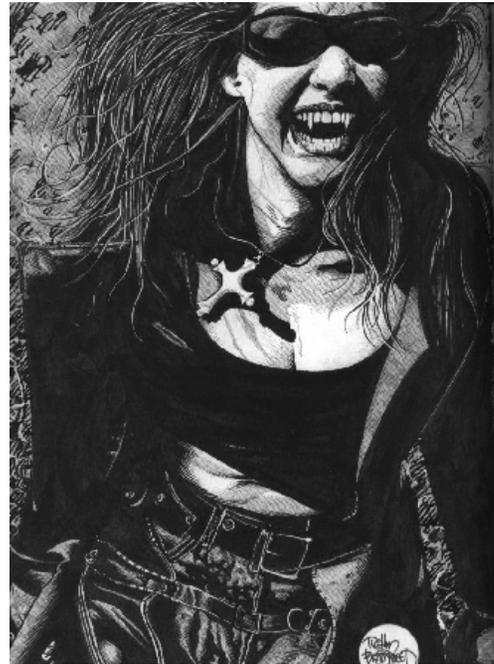


Vampires, Werewolves and.. Metabolism!!?



Le Vampire, lithographie de R. de Moraine, tirée des Tribunaux secrets.



The Origins of Vampire Folklore



Earliest recorded 'vampire' folklore is about blood sucking demons that were almost always female



The current western idea of vampires comes mostly from gothic romantic literature: 'The Vampyre' (Polidori), Dracula (Bram Stoker), in the early-mid 1800's

The properties of Vampires



Pointy teeth



Drink Blood



Hate Sunlight



Hate Garlic



No Reflection



Sexy



The Origins of Werewolf Folklore



First surviving written reference in an 10th century french poem.



Lyncanthropy – greek for ‘wolf-man-to’



Things used to kill vampires are useless against werewolves!



The properties of Werewolves



Hairy



Hate Silver



But Where Did the Idea for Bloodsucking and/or Hairy Monsters Come from?

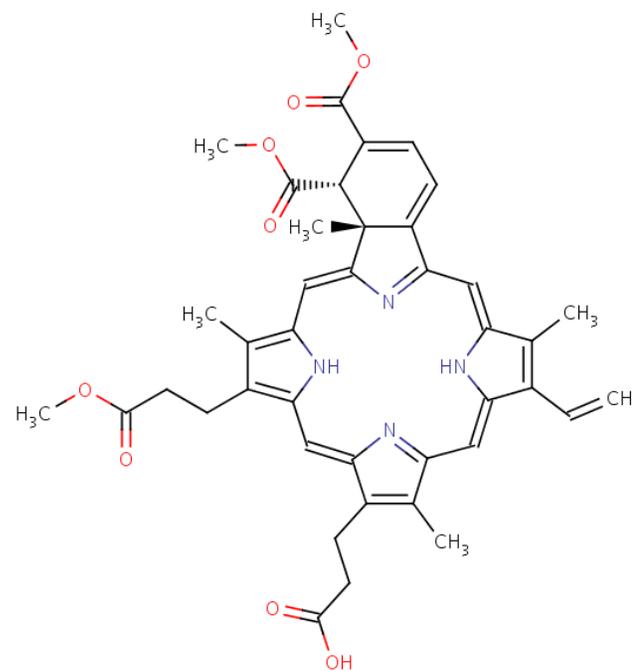


David Dolphin

This guy has an answer! (Which is probably wrong, but interesting nonetheless)

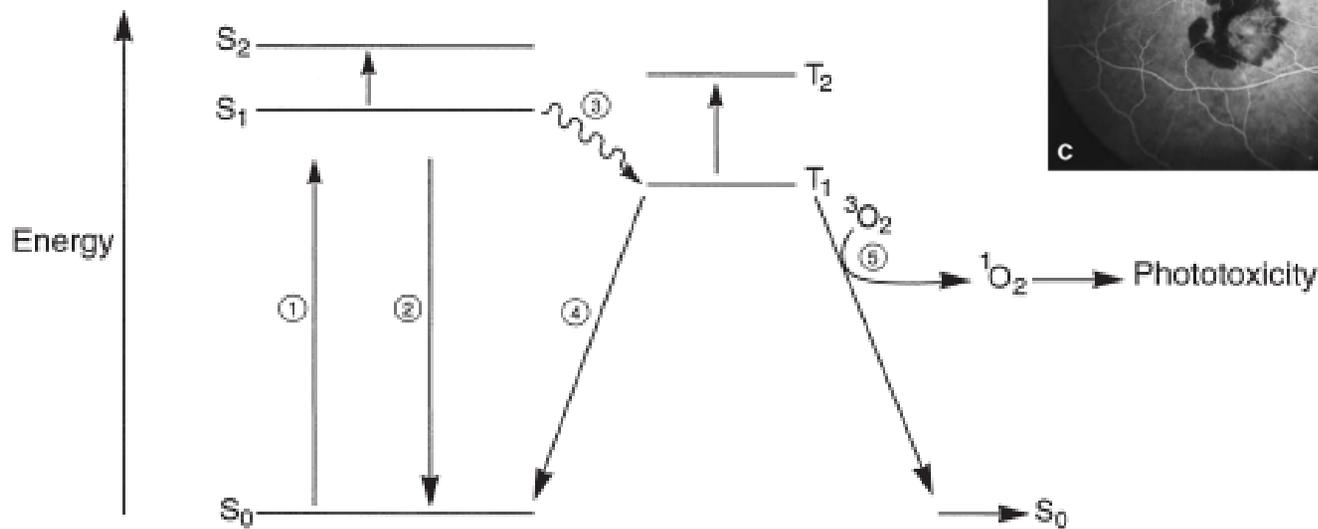
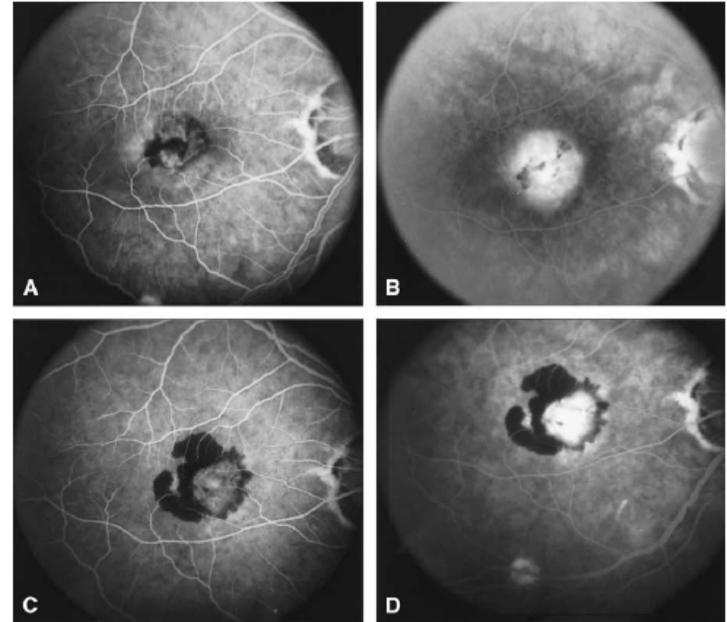
Prof at UBC

Dolphin is renowned for his work on **porphyrins**, particularly for inventing a porphyrin-based, photoactivated drug, Visudyne



Visudyne

Visudyne works against macular degeneration



- ① Absorption
- ② Fluorescence
- ③ Intersystem crossing

- ④ Phosphorescence
- ⑤ Conversion of triplet oxygen to singlet oxygen

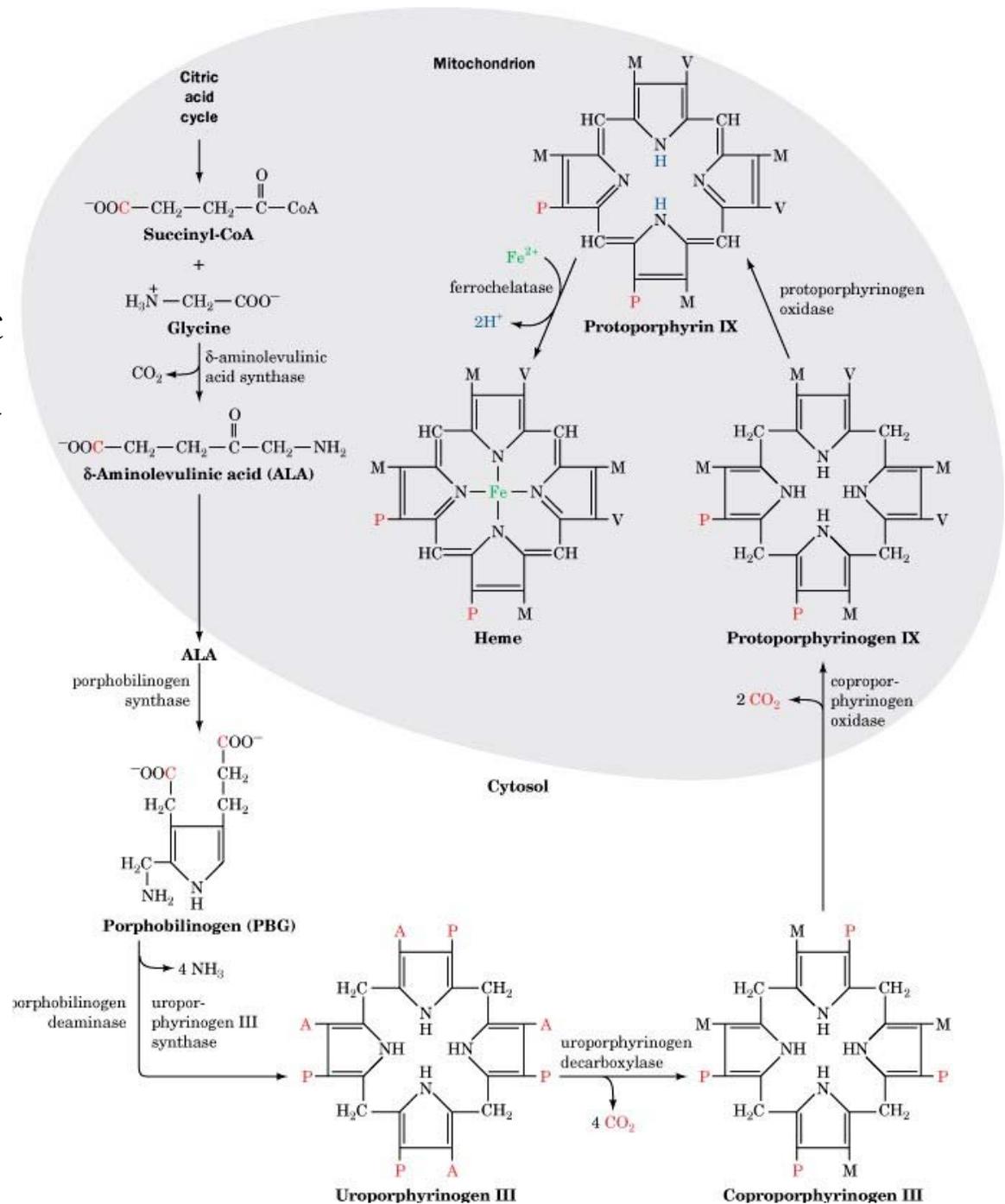
S_0, S_1, S_2 = singlet state
 1O_2 = singlet oxygen

T_1, T_2 = triplet state of photosensitizer molecule
 3O_2 = triplet oxygen

Back to Vampires and Werewolves

David popularized the idea that Vampire and Werewolf myths originated from **porphyria**

Porphyria is a broad term that covers a range of disorders around heme metabolism



Porphyria and Vampires

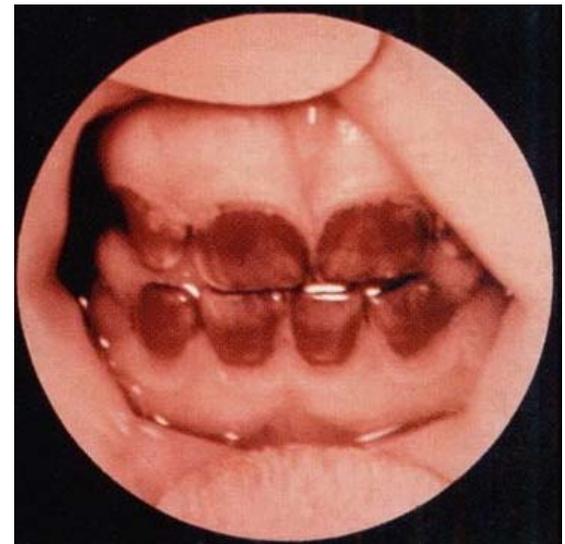
Drink Blood

In theory, drinking blood might alleviate the symptoms of porphyria...

Except that porphyrins don't cross the intestinal mucosa...

Pointy teeth

Well, not pointy, per-se... but possibly **red**! (Congenital Erythropoietic)



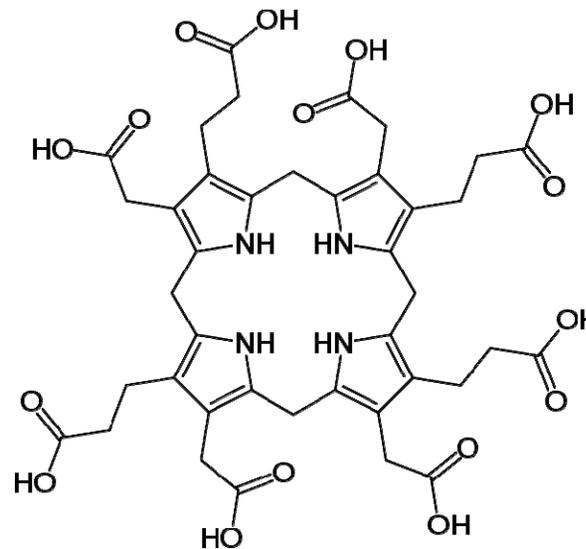
Porphyria and Vampires

 Hate Sunlight

Skin damage from sunlight
can be a symptom!
(Porphyria cutanea tarda)



Uroporphorynogen
III. Light sensitive!!



Porphyria and Vampires

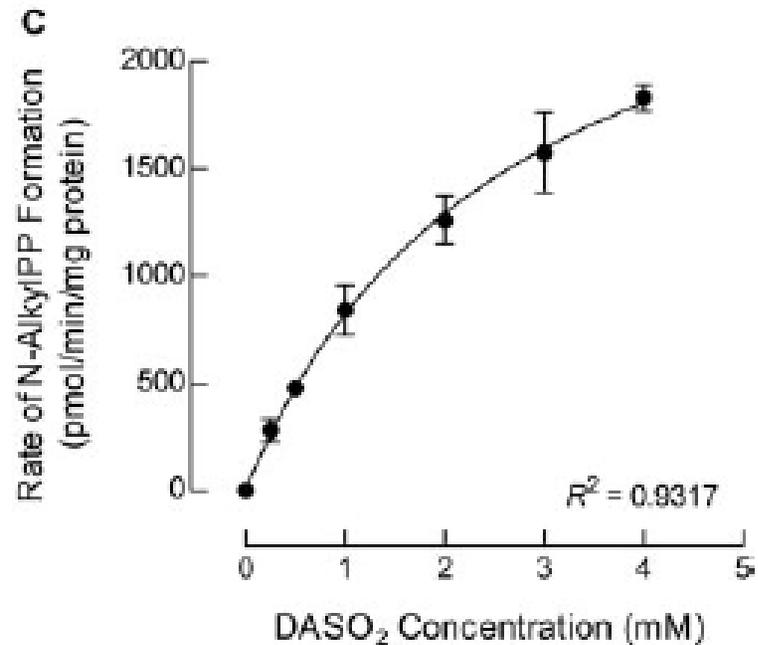


Hate Garlic

Perhaps! Diallyl Sulfone (from Garlic) increases porphyrin production!

FORMATION OF N-ALKYLPROTOPORPHYRIN IX FROM METABOLISM OF DIALLYL SULFONE IN LUNG AND LIVER

DRUG METABOLISM AND DISPOSITION
Vol. 34, No. 6



Porphyria and Vampires

 No Reflection

No apparent correlation to porphyria. Pale skin is a symptom (not always associated with Vampires)

 Sexy



Not likely. One of the side effects of porphyria is **mania** which *could* manifest as hypersexuality... but that's pushing it

Porphyria and Werewolves



Hairy

Porphyria cutanea tarda can cause excessive hair growth, but, as we can see, not like this!



(this man suffers from **hypertrichosis** and is likely not a werewolf)



Porphyria and Werewolves



Hate Silver

Porphyria has no known symptoms in any way related to silver

Werewolves are **real** (so watch your back!), but the thing about them not liking silver is a complete **crazy talk!**