

Source: [\[KBhBIO101Lipids\]](#)

1 | Structure of Lipids

Fatty acids

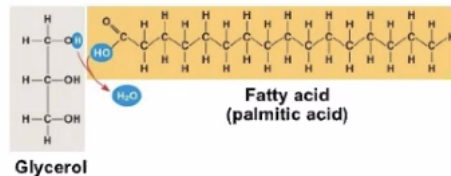


Figure 1: Screen Shot 2020-09-09 at 2.58.49 PM.png

A single pentene and embellishments. **Single Fatty acids = Glycerol**

Trygricerol

Fat! (a.k.a. adipose tissue) = Triglycerol: three glycerals together.

Saturated vs. Unsaturated fats

Saturate Fats *No double bonds* in the carbon chain — think! butter

Unsaturated Fats *Double bonds* in the carbon chain — think! olive oils

Saturated fats has a higher melting point then the unsaturated fats, but unsaturated fats have double bonds whereas saturated fats have single bonds only. Why?

- Double bonds, due to their caused VESPR geometry (and hence the -1 hydrogen), are curved. This makes it harder to stack together, causing a lower melting point
- Single bonds, due to their caused VESPR geometry, is flat. This makes them easier to stack together, causing a higher melting point.

Phospholipids

2 fatty acids (hydrophobic) + phosphate group (hydrophilic)

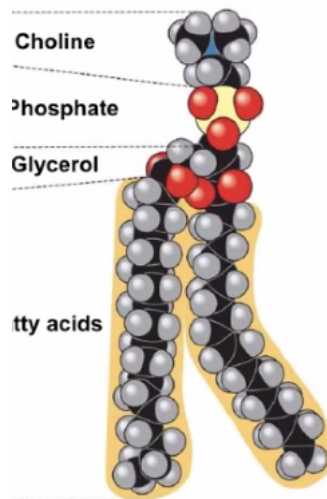
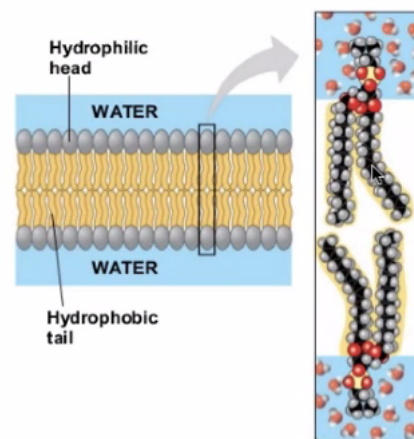


Figure 2: Screen Shot 2020-09-09 at 3.15.41 PM.png



A combination of many of these will end up with membrane:

The hydrophobic tail stays inside, and the hydrophilic head pokes outside and attracts water.

Liposomes + micelles

Lots of phospholipids

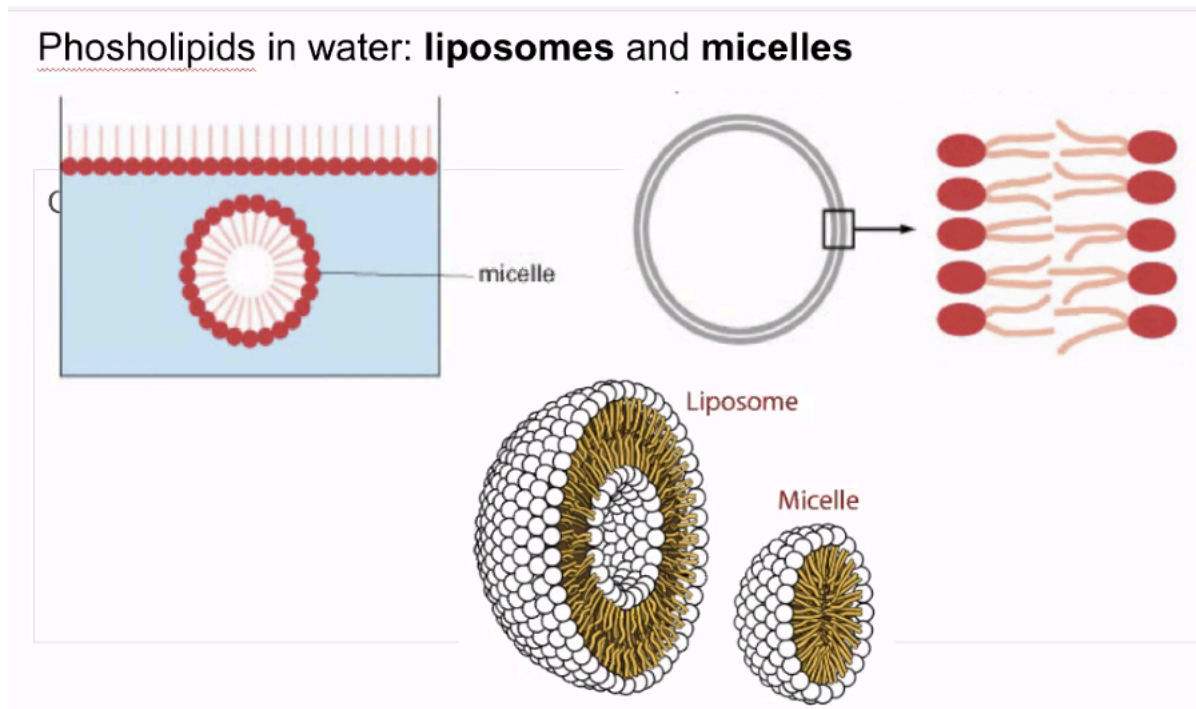


Figure 3: Screen Shot 2020-09-09 at 3.11.54 PM.png

A same idea as Phospholipids, but instead in a big wad of Phospholipids. this arrangement is also how basic cells form membranes. [KBhBIO101CellMembranes](#)

Steroids

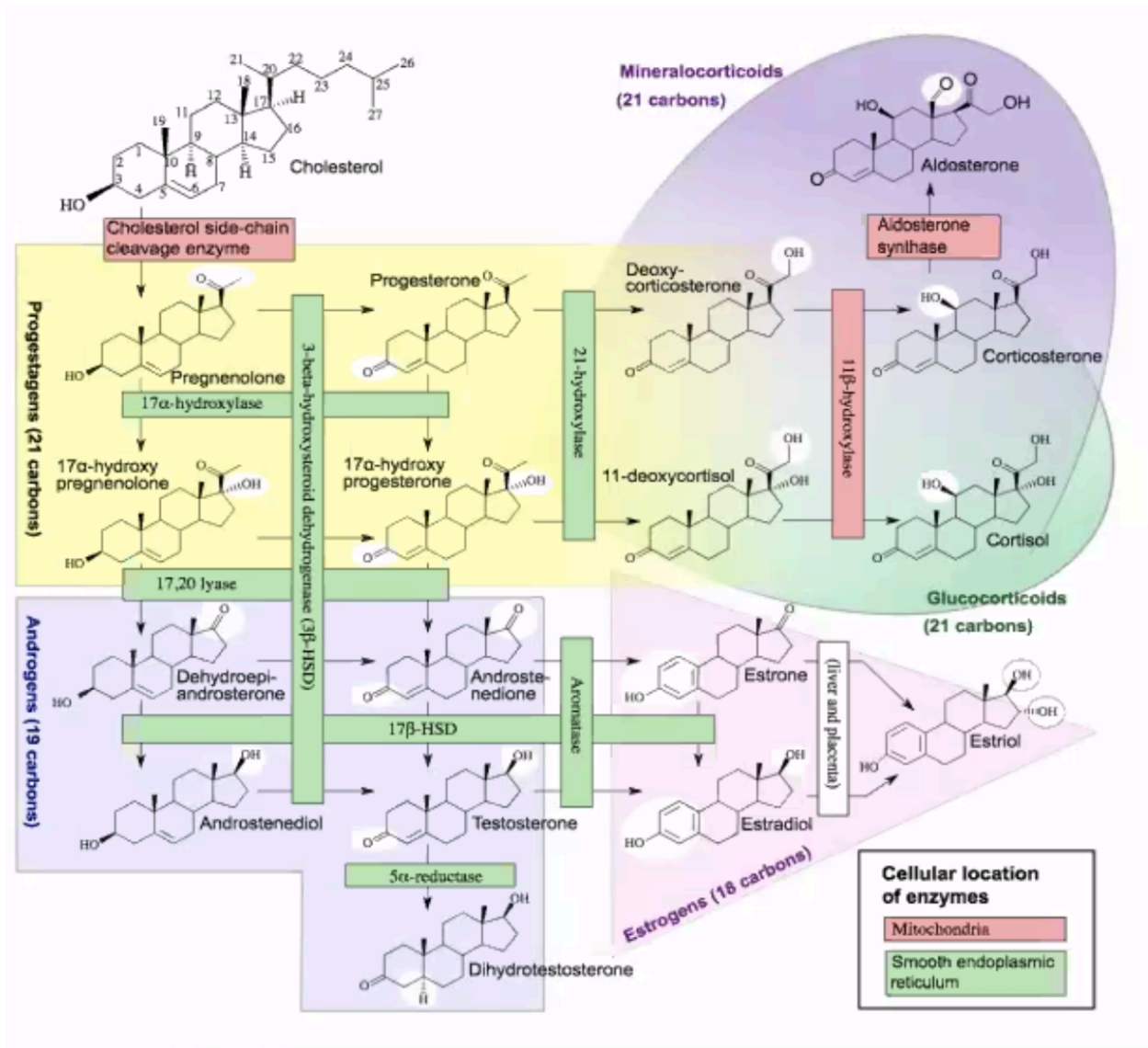


Figure 4: Screen Shot 2020-09-11 at 2.43.35 PM.png