

**Source:**

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#flo #ref #disorganized #incomplete

## 1 | Lipids

#toexpand

### 1.1 | Self assembly

### 1.2 | Construction

### 1.3 | Fatty acids

- carboxylic acid
- fatty part is a hydrocarbon
- connected to the head by an ester linkage using a dehydration synthesis reaction
- energy storage molecule

#### 1.3.1 | Saturation vs unsaturated

- If it's saturated, then everything lines up nicely
- unsaturated fatty acids have a kink (carbon doublebond)
  - harder to pack and flow more smoothly

### 1.4 | Phospholipids

- like normal lipids but with a more polar head
- one saturated tail and one unsaturated tail
- bilayers separate water from outside and inside

#### 1.4.1 | Assembly

- Liposome: bilayer, hydrophilic inside, layer of hydrophobic tails
- Micelle: one layer, hydrophobic inside

#### 1. Assembly structure depends on pH

- High pH = low protons available
- thus, the charged head is negatively ionized
- Thus, the hydrophobic tails attract each other by water exclusion and charged heads repel each other

## 2 | Voltage in Cells