

Lipids

- Made of Carbon, Hydrogen and Oxygen
- Least polar of all molecules
- Have hydrophilic and hydrophobic parts
- not soluble in water
- soluble in hydrophobic solvents
- Store the most energy

Types:

1. Fatty Acids
2. Phospholipids
3. Waxes
4. Steroids
5. Triglycerides

Functions:

1. Long term energy storage
2. Protection against heat loss (insulation)
3. Protection against physical shock
4. Protection against water loss
5. Chemical messenger (hormones)
6. Major component of membranes (phospholipids)

Lipids do not have a single monomer, but the smallest and most common lipid is the fatty acid

Saturated fatty acids hold as many hydrogens as possible. They are saturated with hydrogens. Unsaturated fatty acids have at least one carbon pair making a double bond- they are not saturated with hydrogens. (Reference Picture Pg. 50 on PPTX)

Triglycerides:

- Composed of 1 glycerol and 3 fatty acids.
- Energy storage- they can be rearranged to make ATP in the absence of glucose.
- They act as a cushion and heat insulation.
- Think about a group of indigenous peoples that evolved in the cold. Are they skinny?

Triglycerides can be saturated or unsaturated. If they have no unsaturated fatty acids, they are considered to be saturated fats. If that have at least one unsaturated fatty acid, they are considered to be unsaturated fats.