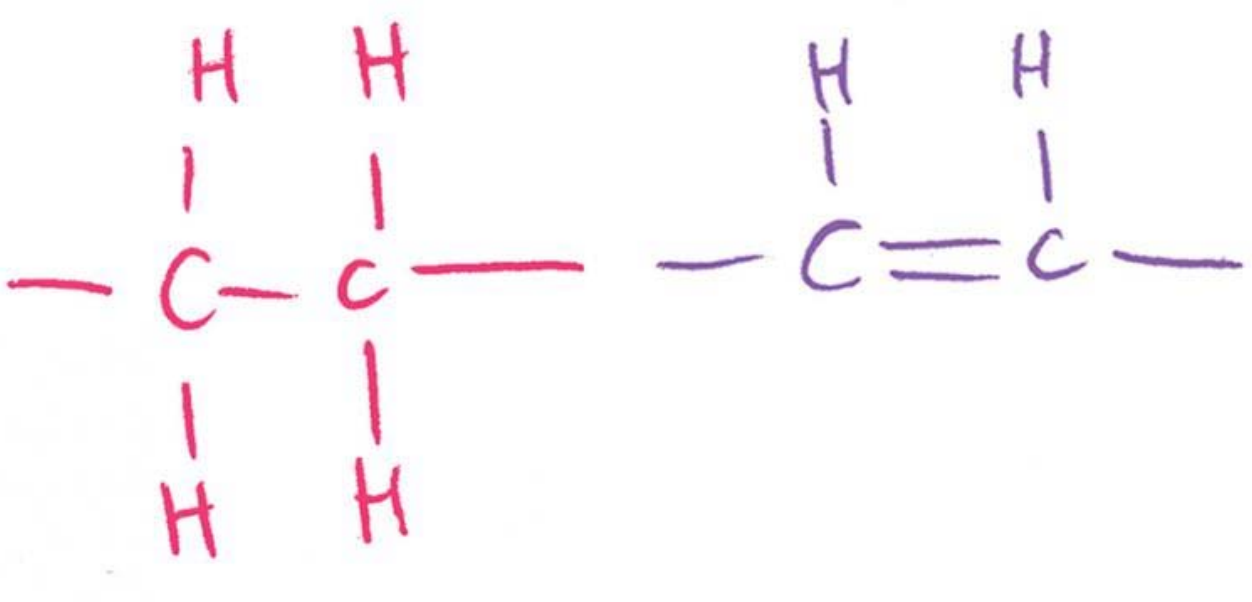
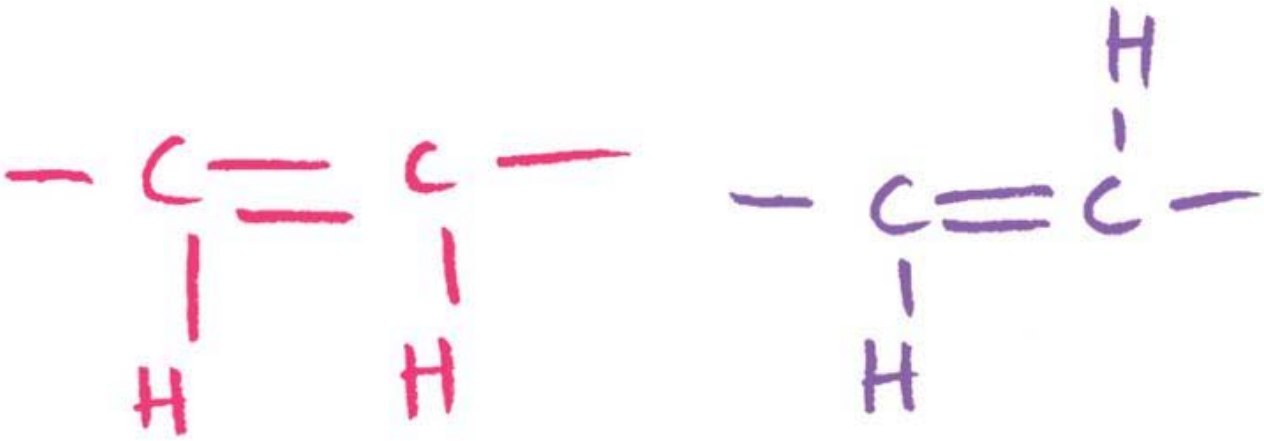
Fat chemistry

A quick guide to how the carbon bonds in fatty acids can be arranged

Saturated fat molecules (below, left) do not contain double bonds between their carbon atoms, while unsaturated fat molecules (below, right) contain one or more double bonds between their carbon atoms.

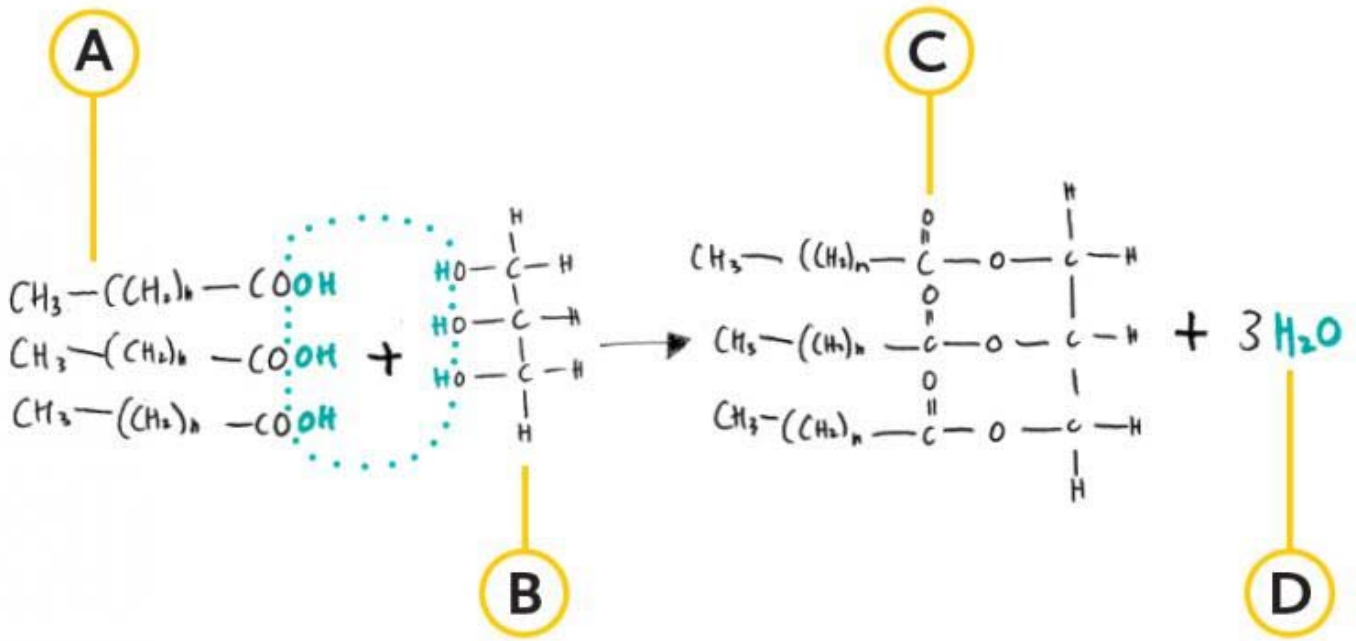


In unsaturated fats, the cis configuration is usual. In trans fats, some bonds are flipped.



How we make triglycerides – one way that the body stores fat

During triglyceride synthesis, three fatty acids combine with one glycerol molecule to make a triglyceride. Ester bonds are formed. This is a condensation reaction, which releases three molecules of water per triglyceride produced.



A. Three fatty acid molecules
B. One glycerol molecule
C. One triglyceride molecule, containing an ester bond
D. Three water molecules