CH 580 Chapter 11

1. Lipids are organic molecules with a polar and nonpolar end.

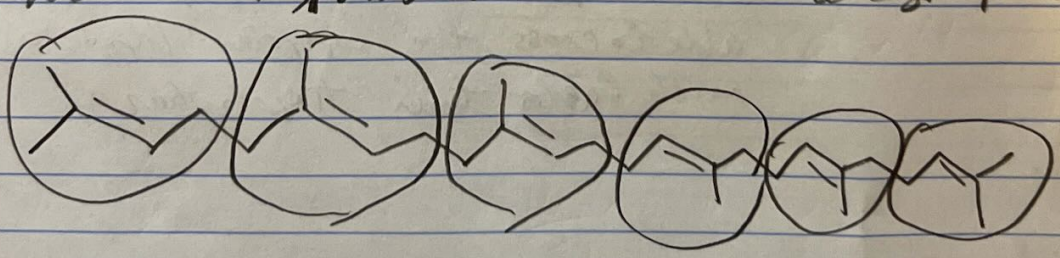
2. B. lower melting temperature

3. Membranes, signaling, storage.

4. 18:1 Δ9
   18:0
   18:0

5. They are esterified from glycerol molecules. They are stored this way because they are less soluble in water, and interact less with water, so they carry less water. Also, each carbon stores more energy because they are more reduced.

6. Glycerophospholipids are the primary constituents of all membranes. Sphingolipids determine blood group and RAFTs.

7. 

8. B may have a lot of cis double bonds, which would lower the melting point. Also, B could have a much shorter chain, making the melting point lower.

9. Tryacontanyl Palmitate would elute first due to its long nonpolar groups compared to the often charged groups on a phospholipid like phosphatidylglycerol, which will have stronger intermolecular interactions and more sticky on TLC.

10. (a) The best fat to use is olive oil, due to its large composition of the unsaturated fatty acids, at 90%.
(b) Beef fat is the worse because it has the highest saturated fat / unsaturated fat ratio.

11. A. At biological pH of 7.4, the NH group of indole is still protonated, while the COOH group of tryptophan is deprotonated, giving it a negative charge.

12. C

13. E This makes tryptophan gain polar character that's ability to form ion-dipole interactions,

14. A while indole has no charge, and harms more nonpolar character. Thus, indole is

15. C able to cross the nonpolar 'lipid' bilayer much faster than tryptophan.

16. A.

17. B.

18. (a) micelles (b) bilayers.

19. (a) active transport.
(b) facilitated diffusion and active transport
(c) active transport.
(d) simple diffusion