

CHEM523 Homework 6

Please answer the following questions from Chapter 11 of your textbook:

Problems 6, 7, 10, 16, 22, 25, 27, 38A, 38C, 38D, 38E (in other words, question 38, but not parts B and F)

And the following questions concerning material from Chapter 12:

12-1) Draw a phosphatidylcholine glycerophospholipid with a palmitic acid chain and a stearic acid chain.

12-2) Why are archaea lipids ether linked?

12-3) Go back to chapter 2 and look up the helical pitch of an alpha helix and the number of residues per turn. Given that a lipid bilayer has a thickness of 30 angstroms, how many amino acids must be in a transmembrane alpha helix? Show your work or you get no credit.

12-4) What amino acids are usually found at the edges of transmembrane alpha helices and why?

12-5) What is the fluid mosaic model and how do cells overcome it?

12-6) Name 2 ways that cells can alter their membrane fluidity.