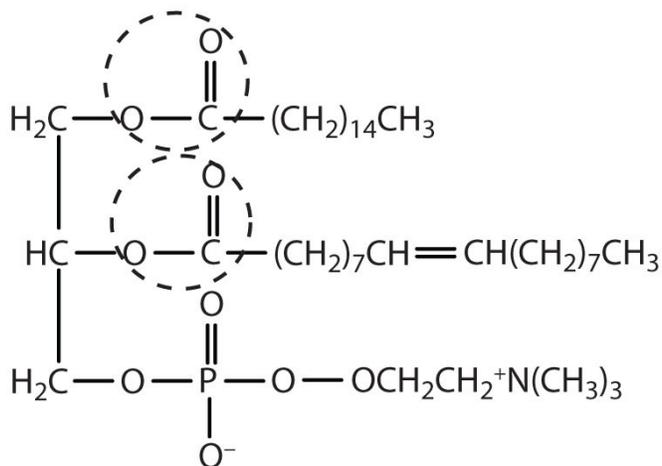
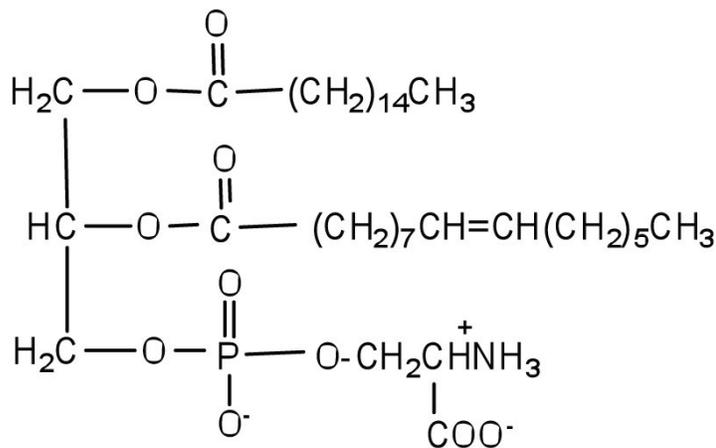


Answers

1. a. Stearic acid has the highest melting point, followed by elaidic acid, and then oleic acid with the lowest melting point. Elaidic acid is a *trans* fatty acid, and the carbon chains can pack together almost as tightly as those of the saturated stearic acid. Oleic acid is a *cis* fatty acid, and the bend in the hydrocarbon chain keeps these carbon chains from packing as closely together; fewer interactions lead to a much lower melting point.
- b. The melting point of palmitelaidic acid should be lower than that of elaidic acid because it has a shorter carbon chain (16, as compared to 18 for elaidic acid). The shorter the carbon chain, the lower the melting point due to a decrease in intermolecular interactions.



3.



5.

7. a. regulates the menstrual cycle and maintains pregnancy
 b. regulates salt metabolism by stimulating the kidneys to retain sodium and excrete potassium
 c. stimulates and maintains male sex characteristics
 d. stimulates the conversion of proteins to carbohydrates
9. a. arachidonic acid
 b. induce smooth muscle contraction, lower blood pressure, and contribute to the inflammatory response

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