CONCEPT: TRIACYLGLYCEROL REACTIONS: HYDROGENATION

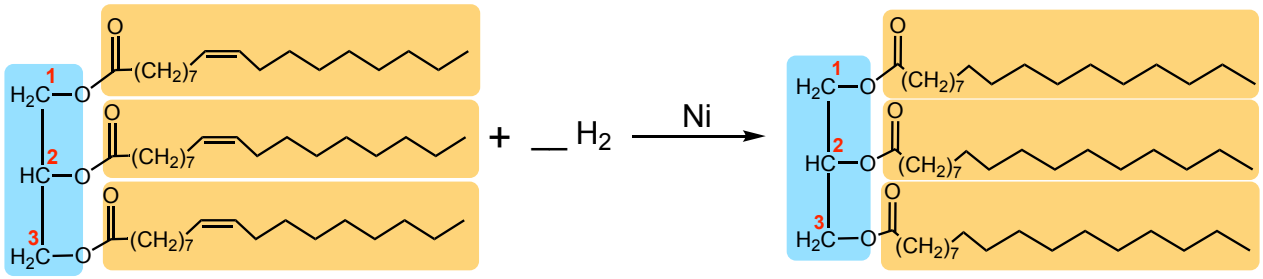
- **Recall:** Under this type of reaction ___ Hs are added to ___ π bond.
  - □ The conversion from double bonds to single bonds ___ unsaturation & ___ melting point.

Hydrogenation Reactions

Triolein

Complete

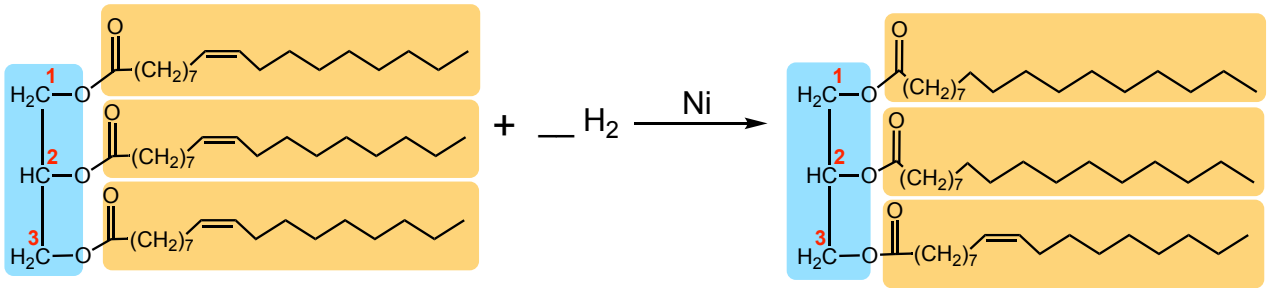
When _____ C=C bonds are reduced to single bonds



Triolein

Partial

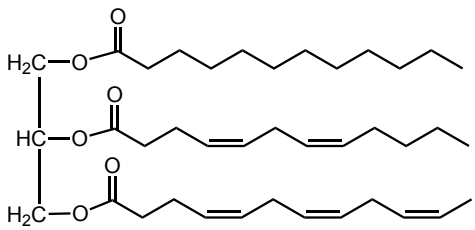
When _____ but not all C=C bonds are reduced to single bonds



* Commerically manufactured

- Partial hydrogenation converts oils to _____ ultimate consistency is based on the _____ of pi bonds.

EXAMPLE: Identify the number moles of hydrogen required for the complete hydrogenation of the following compound.



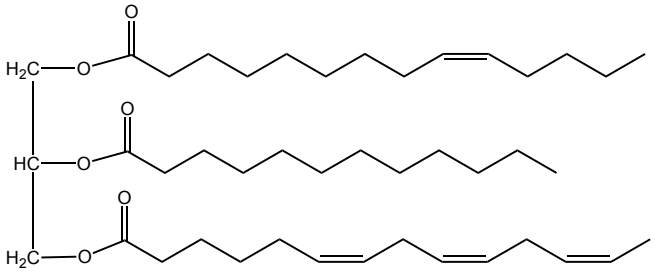
CONCEPT: TRIACYLGLYCEROL REACTIONS: HYDROGENATION

PRACTICE: Determine a possible triacylglycerol molecule formed when linoleic acid undergoes partial hydrogenation and consumes 1 mole of hydrogen gas.

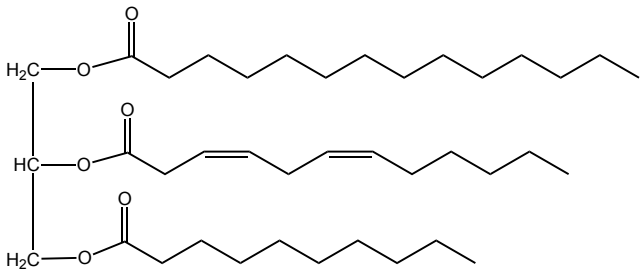
a) Palmitoleic acid b) Stearic acid c) Linolenic acid d) Oleic acid

PRACTICE: Assuming a complete reaction with hydrogen gas, which of the following molecules would have the greatest increase in melting point?

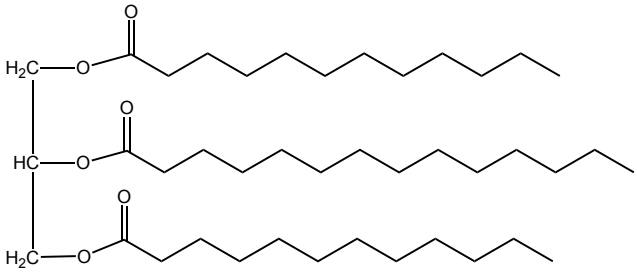
a)



b)



c)



d)