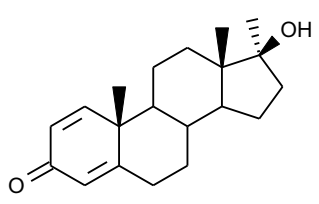
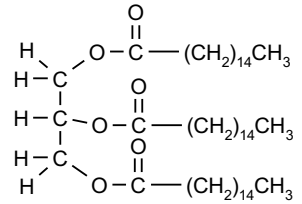
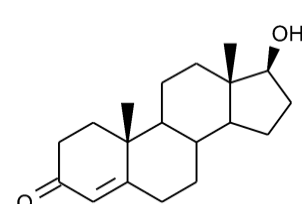
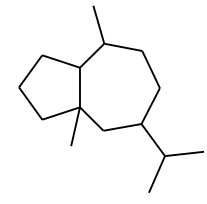
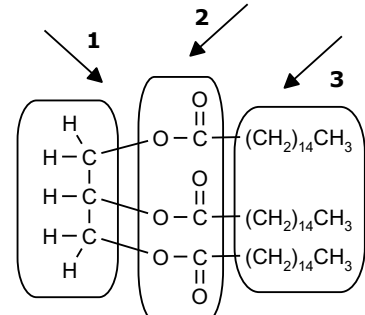
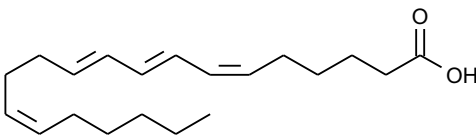
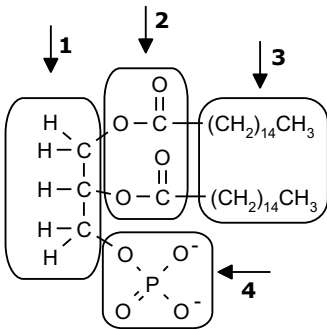
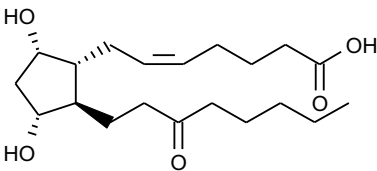
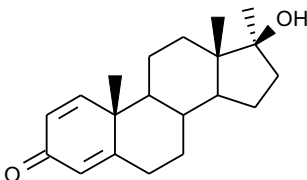


## LIPID EXERCISE TEST

[illegible]

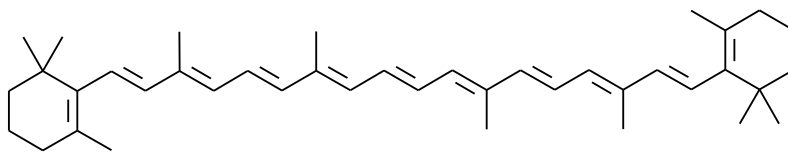
<sup>1</sup> IUPAC names of the acids: arachidic = icosanoic acid (C<sub>19</sub>H<sub>39</sub>CO<sub>2</sub>H); arachidonic = (Z,Z,Z,Z)-5,8,11,14-eicosatetraenoic acid; elaidic = (E)-9-octadecenoic acid.

6)	<p>Indicate which class of compounds the following molecules belong to.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p><b>1</b></p>  </div> <div style="text-align: center;"> <p><b>2</b></p>  </div> </div> <p>A) 1 = Steroid; 2 = Triglyceride.  B) 1 = Triglyceride; 2 = Terpene.  C) 1 = Monosaccharide; 2 = Prostaglandin.  D) 1 = Amino acid; 2 = Steroids.</p>
7)	<p>Indicate how many -CH<sub>3</sub> groups are present in Testosterone.</p> <div style="text-align: center;">  </div> <p>A) 0.                  B) 2.                  C) 4.                  D) 6.</p>
8)	<p>Define the following compound.</p> <div style="text-align: center;">  </div> <p>A) It's not a terpene.                                  B) It's a monoterpene.  C) It's a sesquiterpene.                              D) It is a diterpene.</p>
9)	<p>Indicate which are the hydrophobic regions of the following triglyceride.</p> <div style="text-align: center;">  </div> <p>A) 1 and 2.                  B) 2 and 3.                  C) 1 and 3.                  D) 2.</p>

10)	<p>Indicate whether the following compound is a prostaglandin..</p>  <p>A) Yes.  B) No, because the cyclopentane ring is not present.  C) No, because it's a carboxylic acid.  D) No, because it has 20 carbon atoms.</p>
11)	<p>Indicate which are the hydrophobic regions of the following phospholipid.</p>  <p>A) 1 and 3.      B) 2 and 4.      C) 3.      D) 4.</p>
12)	<p>Indicate which class of compounds the following molecules belong to.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p><b>1</b></p>  </div> <div style="text-align: center;"> <p><b>2</b></p>  </div> </div> <p>A) 1 = Amino acid; 2 = Prostaglandin.  B) 1 = Phospholipid; 2 = Triglyceride.  C) 1 = Steroid; 2 = Triglyceride.  D) 1 = Prostaglandin; 2 = Steroids.</p>
13)	<p>Indicate whether the following compounds have detergent activity.</p> <p style="text-align: center;">(1) <math>\text{CH}_3(\text{CH}_2)_{16}\text{CO}_2\text{H}</math>; (2) <math>\text{CH}_3(\text{CH}_2)_{13}\text{N}^+(\text{CH}_3)_3 \text{Br}^-</math>.</p> <p>A) 1 = Yes; 2 = Yes.      B) 1 = Yes; 2 = No.  C) 1 = No; 2 = Yes.      D) 1 = No; 2 = No.</p>
14)	<p>Using Merrifield synthesis, what experimental precaution should be taken if you want to synthesize the tripeptide Gly-Ala-Phe?<sup>2</sup></p> <p>(1) The amino group of Gly must be activated;  (2) The carboxyl group of Ala must be protected.</p> <p>A) 1 = Yes; 2 = Yes.      B) 1 = Yes; 2 = No.  C) 1 = No; 2 = Yes.      D) 1 = No; 2 = No.</p>

<sup>2</sup> Merrifield synthesis = solid-phase synthesis. Ala = Alanine; Gly = Glycine; Phe = Phenylalanine

15) Indicate how many isoprene units make up  $\beta$ -carotene (molecular formula =  $C_{40}H_{56}$ ).



A) 7.

B) 8.

C) 10.

D) 6.