



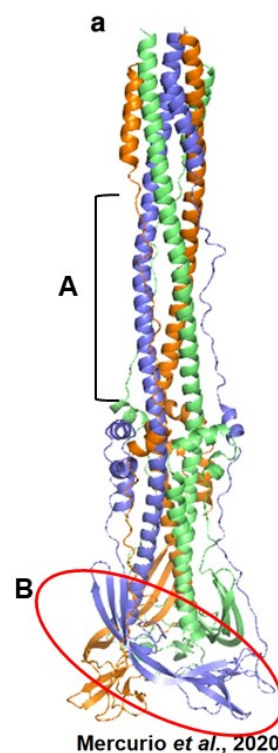
Introduction to Molecular Biology

Dr. Khatta

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Questions Related to Lesson 3_Biomolecules

1. What are the properties and compositions of each biomolecule?
 - a. Sugar
 - b. Lipids
 - c. Proteins
 - d. Nucleotides
2. If all non-covalent bonds (e.g. H-bonds, ionic bonds) are broken, what structure will a protein have? Explain.
3. Shown on the right is the spike of SARS-CoV-2, the virus that is responsible for the COVID-19 pandemic. What secondary structures are observed in A (square bracket) and B (red oval)?



4. During this COVID19 pandemic, we hear a lot about the importance of washing hands. Washing hands with soap kills the virus. Soap molecules have both hydrophobic and hydrophilic components. (See diagram below.)

a. First, determine which part is hydrophobic and which part is hydrophilic.

A. _____

B. _____

b. Given that the envelope (the outermost layer) of the virus is made up of the lipid membrane, similar to the lipid bilayer, explain how soap disrupts the membrane of the virus.

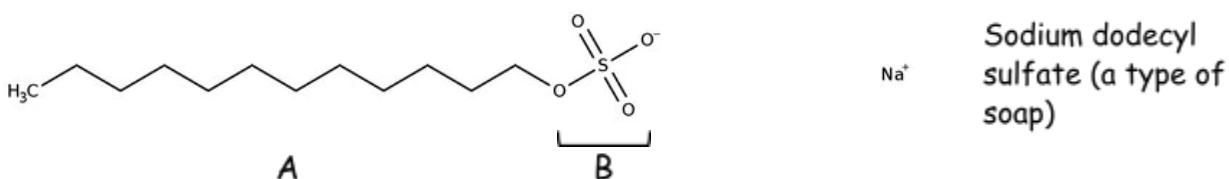


Image from

<https://www.fishersci.se/shop/products/dodecyl-sulfate-sodium-salt-85-acros-organics-3/p-4510259>

Sidenote

If you would like to know more about the COVID-19 virus, here are a few resources.

<https://coronavirusexplained.ukri.org/en/article/cad0010/>

<https://pdb101.rcsb.org/learn/resources-to-fight-the-covid-19-pandemic>

<https://pdb101.rcsb.org/teach/covid-19/topics/getting-started-hand-washing>