

Assignment: Lecture 1 Chemistry of biomolecules

1. What are 2 common intra-molecular interactions found in living organisms?

1.1 _____

1.2 _____

2. Give 3 examples of metal and non-metal atom

2.1 _____ (Metal)

2.2 _____ (Metal)

2.3 _____ (Metal)

2.4 _____ (Non-metal)

2.5 _____ (Non-metal)

2.6 _____ (Non-metal)

3. What **intra**-molecular interaction is found in the following molecules?

3.1 H₂O _____

3.2 CO₂ _____

3.3 NaCl _____

3.4 C₆H₁₂O₆ _____

3.5 MgCl₂ _____

3.6 NaF _____

4. What are the 3 atoms that can form hydrogen bond with the hydrogen atom?

4.1 _____

4.2 _____

4.3 _____

5. Order the following **inter**-molecular interactions from the strongest to the weakest interaction

Hydrogen bond

London force

Dipole-dipole moment

6. What type of **inter**-molecular interaction could be formed by the following molecule?

6.1 H₂O _____

6.2 CO₂ _____

6.3 HCl _____

6.4 HF _____

6.5 SO₃ _____

6.6 N₂ _____

7. Name one molecule that belongs to the following types of molecules?

7.1 Monosaccharide _____

7.2 Disaccharide _____

7.3 Polysaccharide _____

7.4 Sterol _____

7.5 Vitamin _____

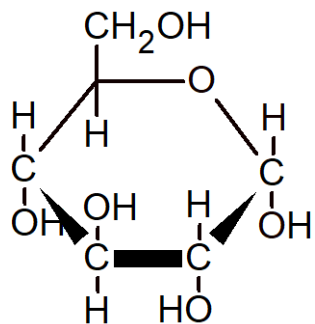
7.6 Mineral _____

8. Give one name of carbohydrate or complex carbohydrate in human body and its function (3 points)

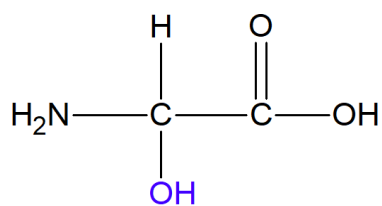
9. How many levels of 3D structure could be found in a protein? Please list all of them. (2 points)

10. Look at the following molecules and consider if they are polar or non-polar

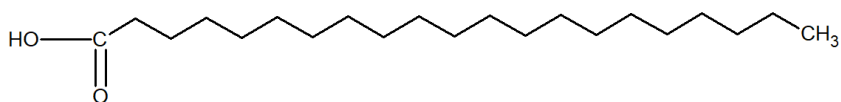
10.1



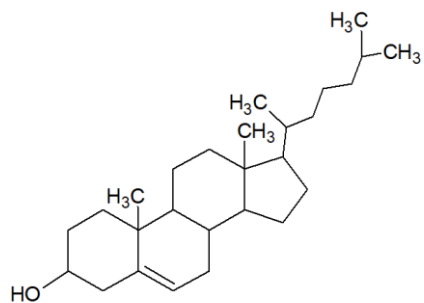
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