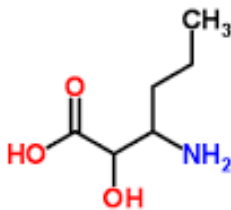


**Friday Worksheet**  
**Analytical chemistry and organic 9**

**Name:** .....

- 1) An 0.082 g sample of an unsaturated hydrocarbon contains 2 carbon to carbon double bonds. This sample reacted fully with 0.320 grams of bromine ( $\text{Br}_2$ ) solution. What is the name of this hydrocarbon?
- 2) Give the systematic name of:
  - a) Isoleucine
  - b) Threonine
- 3) Draw a reaction pathway on a separate piece of paper for the formation of hexyl pentanoate from hex-1-ene and pent-1-ene. Show the structural formulae of all reactants and the reagents and conditions used for each reaction.
- 4) Fill in the table below

Name	Structural formula	Semi-structural formula
2-amino-3-hydroxypropanoic acid		
		$\text{CH}_3\text{CH}_2(\text{CH})_4\text{CH}(\text{NH}_2)\text{CH}_3$
		

- 5) The diagram below is a simplified illustration of a protein. This protein consists of 62 amino acids arranged in two individual chains linked by disulfide bridges.
  - a) How many amide links are present in one molecule of the protein?
  - b) Identify amino acids A and B
  - c) Using the protein shown on the right clearly explain the difference between
    - i. Primary structure
    - ii. Secondary structure
    - iii. Tertiary structure
    - iv. Quaternary structure
- 6) Complete the equations below using structural formulae to represent the products and name all the possible products.

