

**Friday Worksheet**

**Macromolecules worksheet 1**

Match the compound to the  $^1\text{H}$ NMR spectrum .

1) Ethyl butanoate **F**

2)  $\text{CH}_3\text{CH}_2\text{COOH}$  **D**

3) Propan-2-ol **C**

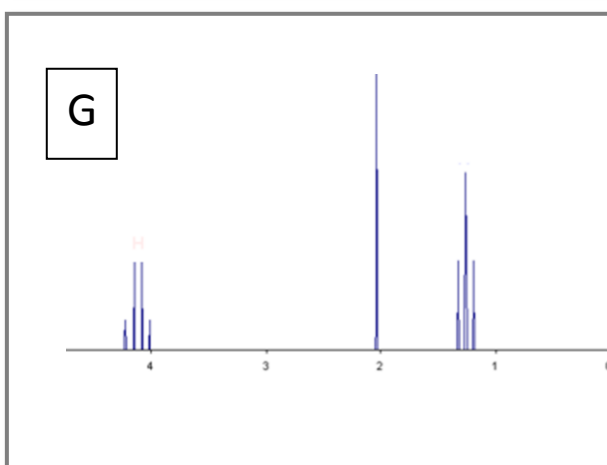
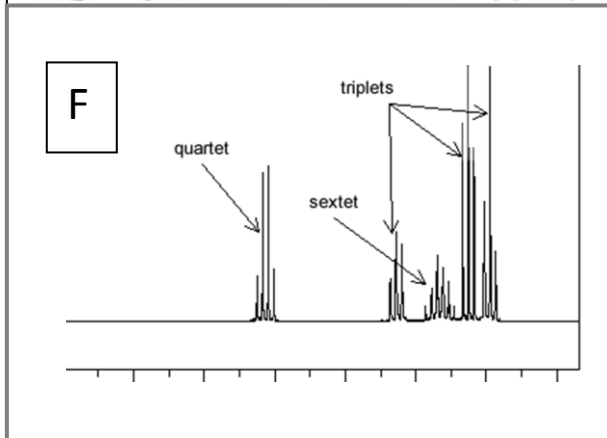
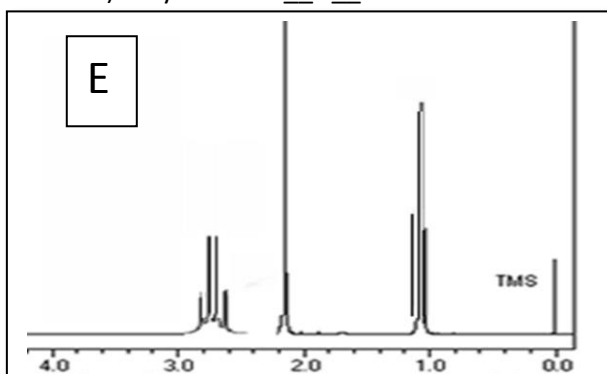
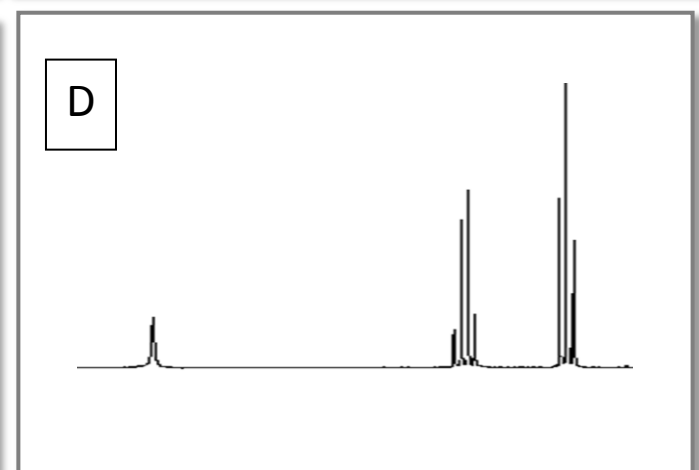
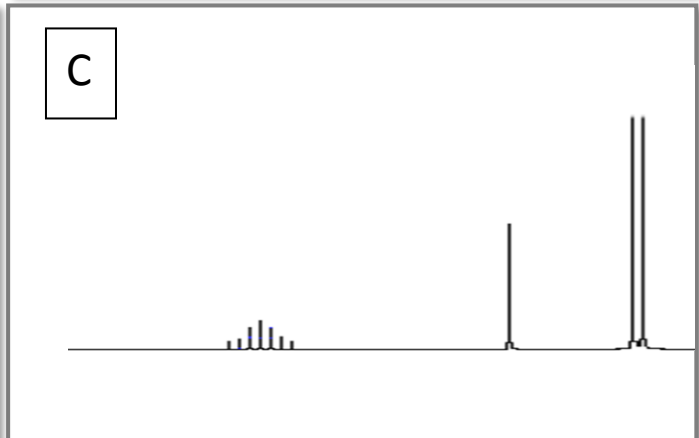
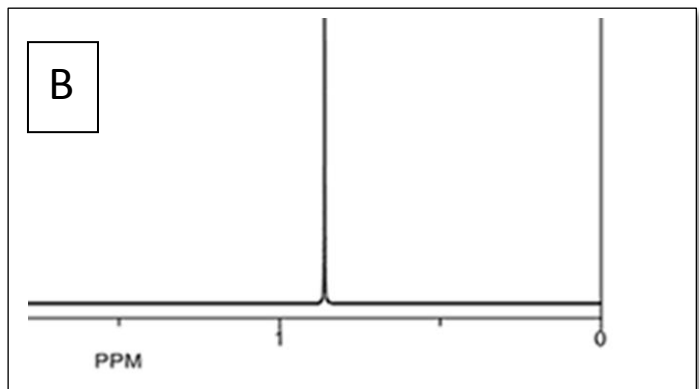
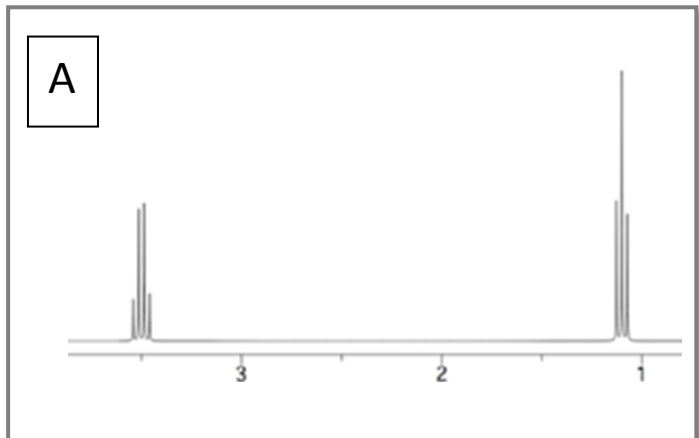
4) Ethane **B**

5)  $\text{CH}_3\text{CH}_2\text{COCH}_3$  **E**

6)  $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$  **A**

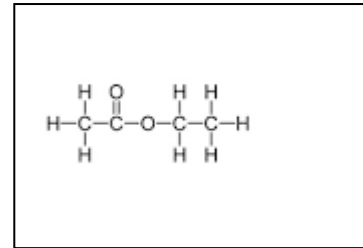
7) Ethyl acetate **G**

Name: .....



2) Molecule G has the molecular formula  $C_4H_8O_2$ .

i. Draw its structural formula.



iii. What raw materials are needed to form G?

ethanol and ethanoic acid

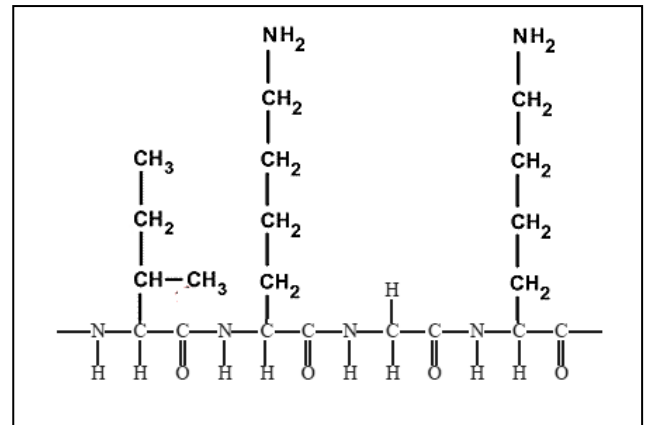
3) The structure on the right represents a section of a polypeptide.

a) Name the amino acids that formed this section of the polypeptide.

Isoleucine

Lysine

Glycine



b) Give the systematic name of each amino acid.

Isoleucine = 2-amino-3-methylpentanoic acid

Lysine = 2,6-diaminohexanoic acid

Glycine = 2-aminoethanoic acid

4) The diagram below represents part of the DNA double helix.

a) Identify the sugar molecule.

deoxyribose

b) What atom or group of atoms is represented by A and B

A = phosphorus atom

B =  $CH_2$

c) The bond labelled "X" comes about due to the interaction of which two functional groups

Two OH groups

c) What is the base sequence of the complementary strand of the DNA molecule?

