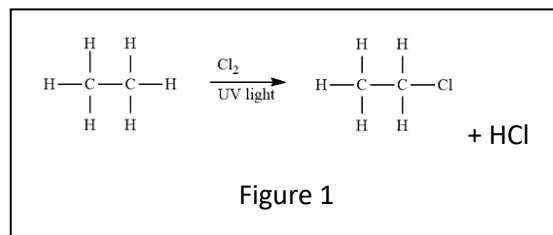


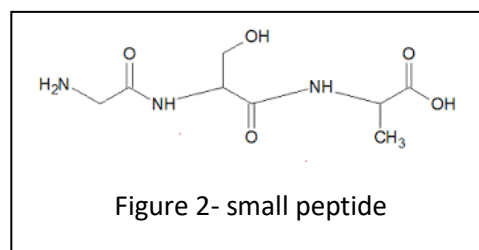
Video worksheet - Reactions and reaction pathways

1. Consider the reaction shown in fig 1.
- a. Identify the type of reaction taking place.



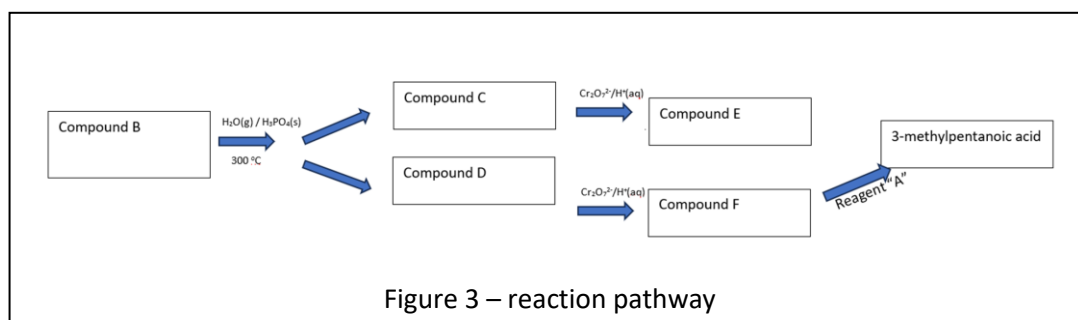
- b. Can this reaction also be labelled as a redox reaction? Justify your answer using oxidation numbers.

2. Consider the short peptide shown in fig 2.



- a. What type of reaction formed this peptide?
- b. In the diagram above, circle and name the functional groups that were created during the formation of this peptide.
- c. What type of reaction takes place during digestion of this peptide?
- d. Identify the amino acids that have formed this short peptide.

3. Consider the reaction pathway shown below in fig 3.



- a. Name the compounds and draw their skeletal structures in the appropriate box:

- B _____
- C _____
- D _____
- E _____
- F _____

- b. Name the reagent "A" _____

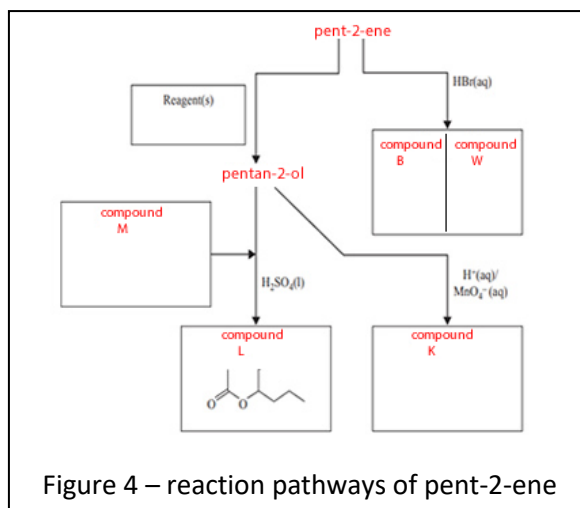
- c. What type of reaction formed 3-methylpentanoic acid?

4. Consider the reaction pathway shown in fig 4.

a. Write the IUPAC name of Compounds "B" and "W".

b. What type of reaction formed compound "B" and "W"?

c. State the reagent(s) required to convert pent-2-ene to pentan-2-ol in the box provided.



d. Draw the skeletal formula and name a tertiary alcohol that is an isomer of pentan-2-ol.

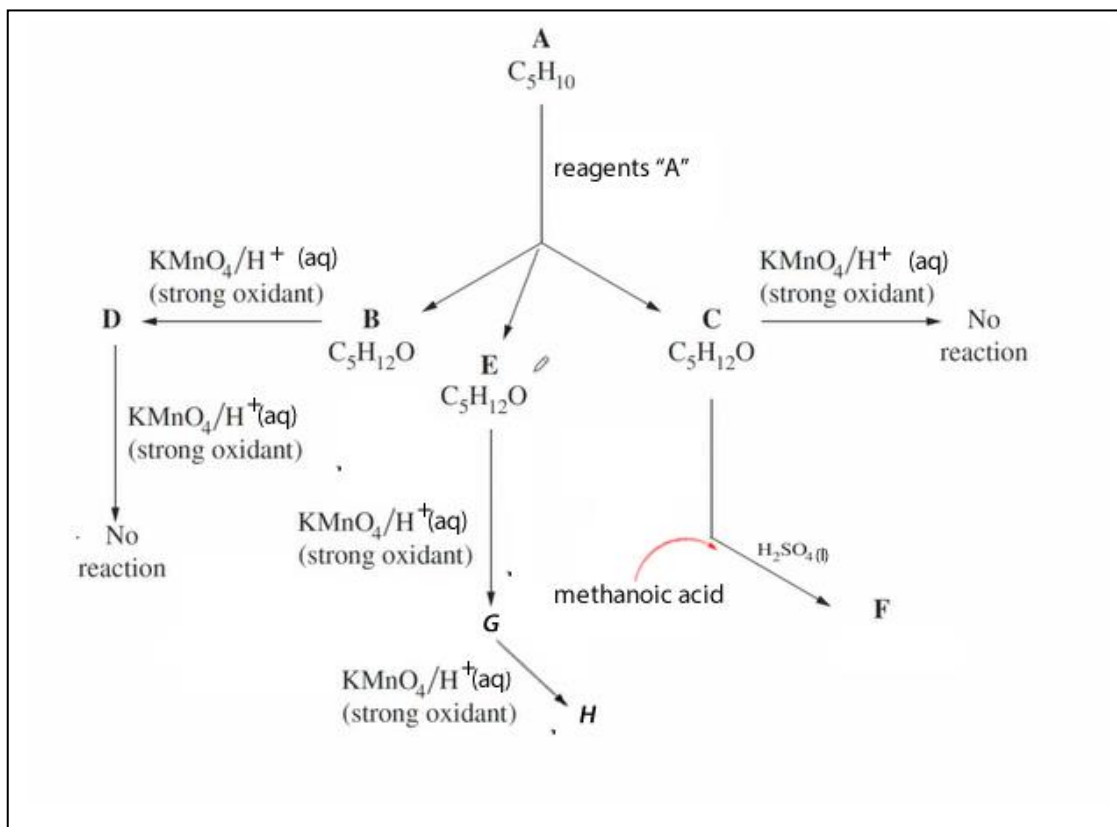
e. Pentan-2-ol is reacted with Compound M under acidic conditions to produce Compound L. Write the semi-structural formula for Compound M in the box provided.

f. i. Draw the skeletal formula for Compound K in the box provided

ii. Name the class of organic compound (homologous series) to which Compound K belongs.

g. What type of reaction produces Compound K from pentan-2-ol?

4. Consider the reaction pathway starting with a mixture of two structural isomers with the formula C_5H_{10} , shown in fig 5.



- a. Given that compound H react strongly in the presence of a strong base to lower the pH of the solution, name (IUPAC) the following compounds and give their condensed formulas.

A. Isomer 1 _____
 Isomer 2 _____

B. _____

C. _____

D. _____

E. _____

G. _____

H. _____

- b. Identify the reagent/s labelled "A" _____

- c. Give the structural formula of the following compounds

