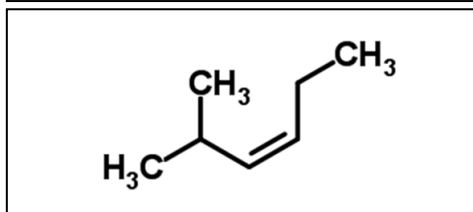
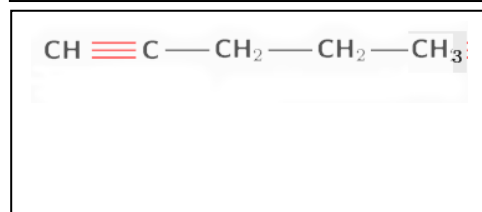
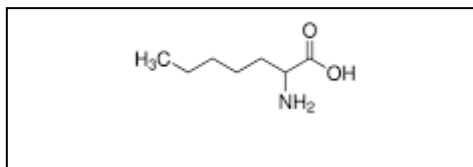
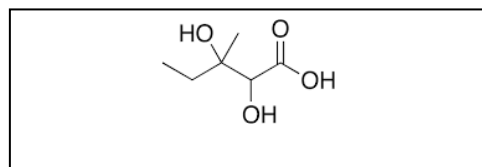
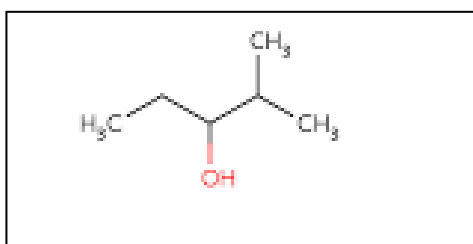
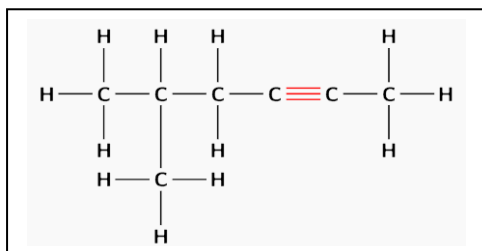
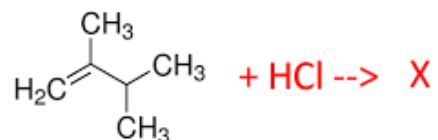


Revision – Organic chemistry – naming, isomers, chiral centres atom economy.

1) Name the following molecules

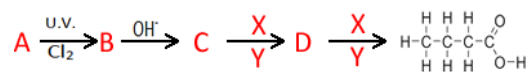


2) Consider the reaction below.



- What type of reaction is the one shown above.
- How many structural isomers are possible for X?
- Name each isomer.
- Is X a chiral molecule? Explain

3) Consider the reaction pathway given below



a) Identify the following

- A
B
C
X
Y

4) Consider the following reactions

a) Propanol + pentanoic acid \rightarrow

- Name all the products
- Identify the type of reaction
- Draw the structural formula of the major product

b) Ethanamine + propanoic acid \rightarrow

- Identify the type of reaction
- Draw the structural formula of the major product.
- Calculate the percentage atom economy of this reaction
- What is the functional group present in the major product?

c) Butan-1-ol $\xrightarrow{\text{Cr}_2\text{O}_7^{2-}/\text{H}}$

- Identify the type of reaction
- Draw the structural formula of the product

d) propan-2-ol $\xrightarrow{\text{Cr}_2\text{O}_7^{2-}/\text{H}}$ ketone

- What type of alcohol is propan-2-ol
- Draw the structural formula of the ketone

5) Consider the molecules below.

a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ b) $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$ c) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$

- Place the molecules in order of increasing solubility in water. Explain why
- Place the molecules below in order of increasing solubility in water. Explain why
a) butan-1-ol, b) ethan-1-ol, c) pentan-1-ol

6) Consider the molecules shown on the right.

- Circle the chiral centres.
- How many optical isomers does each molecule have?

