Lesson 7 Primary, secondary and tertiary alcohols.

<u>Click</u> to revise oxidation reactions with alcohols

The diagram on the right summarises the structures of the primary secondary and tertiary alcohols.



A primary alcohol can undergo oxidation to produce an aldehyde. The aldehyde can be further oxidised into a carboxylic acid, according to the diagram on the right.



A secondary alcohol can undergo oxidation to produce a ketone, as shown on the right.



Tertiary alcohols cannot be oxidised.

Identify the following as a primary, secondary or tertiary alcohol and name it.
a) CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)OH

b) CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH

- c) CH<sub>3</sub>C(CH<sub>3</sub>)OHCH<sub>2</sub>CH<sub>3</sub>
- 2) Give the

ii.

i. semistructural formula for X

name X

 $X \xrightarrow{K_2Cr_2O_7} CH_3CH_2 \xrightarrow{O}_{C} CH_3CH_2$ 

3)Name the product and the reactant of the reaction shown on the right.

4) Consider the reaction shown on the right.

a) What class of compound is X?

b) Name X

c) Give the semistructural formula for X

d) What class of compound is the product?

5) Consider the reaction shown on the right.

a) What class of compound is X?

b) Name X

c) Give the semistructural formula for X

d) What class of compound is the product?

6) Consider the reaction shown on the right.

a) What class of compound is z?

b) Name X

c) Give the semistructural formula for X and Z





