C3 – Organic Chemistry

1. What is the general formula for all alcohols?

   CnH2n+1OH

2. What is the formula of the functional group for alcohols?

   OH

3. What are alcohols used for?

   Alcoholic beverages, solvents, perfumes

4. What is produced when alcohols are combusted?

   Carbon dioxide and water.

5. What are alcohols oxidised to?

   Carboxylic acids

6. What is formed when carboxylic acids are added to water?

   A weakly acidic solution

7. What is the formula of the functional group for carboxylic acids?

   -COOH

8. What is the formula of the functional group for esters?

   -COOC

9. What is a homologous series?

   A group of compounds with the same functional group where one member differs from the next by a CH2 group.

10. What are the properties of esters?

    Smell fruity, are volatile, are good solvents.

11. What are esters used for?

    Perfumes, flavourings in food and drinks.

12. What is ethanoic acid used for?

To make esters, to make vinegar.

13. Which alcohol is used to make propyl ethanoate?

    Propanol

14. What acid is used to make the ester ethyl butanoate?

    Butanoic acid

15. Which oxidising agent is used to oxidise alcohols?

    Potassium dichromate(VI)

16. What is the catalyst used in the reaction between alcohols and carboxylic acids?

    Concentrated sulphuric acid.

17. What is the pH when ethanol is added to water?

    Neutral; pH 7

18. How do you test for carboxylic acids?

    Add sodium carbonate. Carbon dioxide is produced (fizzing) as well as water and sodium carboxylate

19. Why are carboxylic acids weak acids?

    Because they only partially dissociate when added to water.

20. What are the health problems caused by alcohol?

    High blood pressure, heart disease, memory loss, liver damage.

21. Why are alcoholic drinks taxed?

    To pay for health problems caused by drinking, days lost at work and policing antisocial behaviour.

22. How do you turn esters into biofuels?

    Plant oils are esters and they are reacted with methanol or ethanol to make biodiesel.