

32. Hydroxy compounds

Starter Quiz · 课前小测

A-Level Chemistry

Name: _____ Score: _____

1. An alcohol reacting with an acyl chloride gives:

- ☐ an ester (plus HCl)
- ☐ an alkene
- ☐ a halogenoalkane
- ☐ an amine

2. Phenol is:

- ☐ an –OH group joined directly to a benzene ring
- ☐ an –OH on a long alkyl chain
- ☐ a carboxylic acid
- ☐ a halogenoarene

3. Compared with using a carboxylic acid, making an ester from an acyl chloride is:

- ☐ faster and more complete
- ☐ slower
- ☐ reversible and incomplete
- ☐ impossible

4. Unlike an ordinary alcohol, phenol reacts with NaOH(aq). This shows phenol is:

- ☐ more acidic than an alcohol
- ☐ less acidic
- ☐ a base
- ☐ unreactive

5. Ethanol + ethanoyl chloride gives:

- ☐ ethyl ethanoate
- ☐ ethene
- ☐ ethanoic acid
- ☐ ethanal

6. An acyl chloride reacts with an alcohol to form an _____.

7. Acyl chlorides are more reactive than carboxylic acids.

- ☐ True ☐ False

8. Phenol is a weak acid that reacts with sodium hydroxide.

- ☐ True ☐ False

9. Phenol with bromine water at room temperature (no catalyst) gives:

- ☐ 2,4,6-tribromophenol (a white precipitate)
- ☐ bromobenzene only
- ☐ no reaction
- ☐ a brown solution

10. The acidity order is:

- ☐ ethanol < water < phenol
- ☐ phenol < water < ethanol
- ☐ water < ethanol < phenol
- ☐ all equal

1. **an ester (plus HCl)**

The alcohol's –OH reacts with the acyl chloride to form an ester, releasing HCl.

2. **an –OH group joined directly to a benzene ring**

The –OH is bonded straight to the aromatic ring, changing both the –OH and the ring chemistry.

3. **faster and more complete**

Acyl chlorides are very reactive, so esterification with them is fast and goes essentially to completion.

4. **more acidic than an alcohol**

Phenol is acidic enough to react with NaOH, forming sodium phenoxide; alcohols are not.

5. **ethyl ethanoate**

The ester ethyl ethanoate forms, along with HCl fumes.

6. **ester**

Releasing hydrogen chloride gas.

7. **True**

The chlorine is a good leaving group.

8. **True**

The –OH on the ring is more acidic than in an alcohol.

9. **2,4,6-tribromophenol (a white precipitate)**

The activated ring reacts readily, brominating positions 2, 4 and 6 to give a white precipitate.

10. **ethanol < water < phenol**

Phenol is the most acidic of the three because the phenoxide charge is delocalised into the ring.