

A First Year blog on Tests, 15th December 2018

TESTS FOR

An Alcohol group

PCl₅

Will react vigorously with an alcohol to give HCl (g) fumes (which with Ammonia vapour will give a white fume/cloud).

Phenol will react less vigorously.

PCl₅ will also react with water (because water dissociates a small number of protons) but even less vigorously.

1° vs. 2° vs. 3° Alcohols

Under **GENTLE** Oxidisation (and the colour change is orange to green)

1° Alcohols → Aldehydes, and then → Carboxylic Acids

2° Alcohols → Ketones, and

3° Alcohols resist gentle oxidisation.

(Any alcohol will be converted into a Carboxylic Acid under **aggressive** oxidisation of reflux with acidified KMnO₄.)

An Halogenoalkane

Hydrolyse in the presence of AgNO₃ and a yellowy white (AgI)/a creamy white (AgBr)/a white ppt (AgCl) of a Silver halide will be formed.

AgI < AgBr < AgCl, where "<" = quicker than.



AgCl will dissolve in dilute Ammonia

AgBr will dissolve only in concentrated Ammonia

AgI will not dissolve in either

An alkene

Brown Bromine water will be decolourised immediately by an Alkene (even when ice-cold and in the dark therefore it cannot be a homolytic bond fission reaction).

An Alkene will turn ice cold, dilute, acidified MnO₄⁻ colourless.

Oxidising agents

Dichromate (Cr₂O₇²⁻) : orange liquid → green.

Tollens [Ag(NH₃)₂]⁺ : clear liquid → silver ppt.

Fehling's/Benedict's : blue liquid → brick red.