

reagents & observations

Substance	Function	Observations
Acidified Sodium Dichromate (VII)	Acts as an oxidising agent, becoming reduced in the process to Cr^{3+}	Goes from orange to green
Acidified Potassium Manganate (VII) (dilute)	Is a test for alkenes	Discolours from purple
Bromine water	Is a test for alkenes, breaking the double bonds in an electrophilic addition halogenation reaction	Goes from orange to colourless .
Ammonia	Used to test for the presence of hydrogen halides, in an acid-base reaction.	Creates misty white fumes as ammonium salts are formed
Al_2O_3	Used as a reducing agent for gases, by passing gas over beads of Al_2O_3 (substance usually on ceramic wool)	None. Produces alkenes from alcohols.
LiAlH_4	Used as a reducing agent for liquids. It provides hydride (H^-) ions, allowing it to reduce side groups on arenes without attacking the ring.	None. Converts Carboxylic Acids to Aldehydes, to alcohols, to alkenes, and amides to amines.
Sulphuric Acid/ Phosphoric Acid	Can act as an oxidizing agent when heated, or as a dehydrating agent.	Steaming?
Benedict's Solution	Used to detect aldehydes	Goes from blue to red
Sodium Carbonate Solution	Used to detect the presence of an acid stronger than a phenol, which displaces CO_2 .	CO_2 bubbles form.
Lead Ethanoate Paper	Used to detect the presence of H_2S	Turns silvery grey
Potassium Dichromate (VI) paper	Used to detect the presence of SO_2 gas	Goes from orange to green (like the solution)
CaCl_2 / NaCl / Na_2SO_4	These are all drying agents, concentrated solutions of which can be used to remove water from solutions	None that I know of.
CoCl_2	Another drying agent, but one that also acts as an indicator	Turns from blue to purple to pink with increasing hydration of the complex ion
AgNO_3	Used as an indicator with hydrogen halides, as you end up with AgHal precipitates	AgCl : White AgBr : Creamy AgI : Yellow
Na	Used as a test for the presence of OH groups, with which it will take part in an acid-base reaction. Produces alkoxides.	Hydrogen displaced; bubbles!
NaOH	Will hydrolyse carboxylic acid groups, as well as forming $\text{NaO} + \text{H}_2\text{O}$ with alcohol groups.	Not sure.
NaOH	Produces a green ppt. with Fe^{2+} and a rusty brown with Fe^{3+}	Green ppt. for Fe^{2+} Brown ppt. for Fe^{3+}
CuSO_4	Forms a green/brown ppt with aryl amines (i.e. Amine groups on arene ring)	Greeny brown ppt with aryl amines
$\text{KMnO}_4 + \text{H}_2\text{SO}_4$	Creates a diol from an alkene.	None.