

C 1-4/5 (small) alcohols amines carboxylic acids	C ≥ 5 (larger) alcohols, amines carboxylic acids, AND <u>all</u> alkanes, alkenes, alkynes and haloalkanes	Turn moist <b>red</b> litmus paper <b>blue</b>	Turn moist <b>blue</b> litmus paper <b>red</b>
soluble in water / have 1 layer	insoluble in water / make 2 layers	amine	carboxylic acid
Turn UI solution <b>green</b> to <b>blue</b> / turn moist UI paper <b>blue</b>	Turn UI solution from <b>green</b> to <b>orange</b> / turn moist UI paper <b>orange</b>	Turn <b>Cr<sub>2</sub>O<sub>7</sub><sup>2-</sup></b> /H <sup>+</sup> (aq) to <b>Cr<sup>3+</sup></b> (aq), colour change <b>orange</b> to <b>green</b> when heated	Turn <b>MnO<sub>4</sub><sup>-</sup></b> /H <sup>+</sup> (aq) to Mn <sup>2+</sup> (aq), colour change <b>purple</b> to colourless when heated
amine	carboxylic acid	primary alcohol	primary alcohol
Turn <b>MnO<sub>4</sub><sup>-</sup></b> /H <sup>+</sup> to Mn <sup>2+</sup> , colour change <b>purple</b> solution to colourless solution – NO HEAT needed	Turn <b>MnO<sub>4</sub><sup>-</sup></b> to <b>MnO<sub>2</sub></b> colour change <b>purple</b> solution to <b>brown</b> precipitate – NO HEAT needed	React with NaHCO <sub>3</sub> or Na <sub>2</sub> CO <sub>3</sub> solid or solution (or any salt containing carbonate ion) producing colourless gas	React with Mg (or any reactive metal) producing colourless gas
alkene (makes the diol)	alkene (makes the diol)	carboxylic acid (gas made is CO <sub>2</sub> )	carboxylic acid (gas made is H <sub>2</sub> )
Have a rotting, decomposing or a fishy smell 	Have a 'sharp', sour or vinegary or baby vomit smell	Rapidly decolourise <b>orange</b> bromine water, <b>Br<sub>2</sub></b>	Slowly decolourise <b>orange</b> bromine water, <b>Br<sub>2</sub></b> , needing <i>uv</i> light and/or heat
amines	carboxylic acids	alkenes and alkynes (unsaturated)	alkanes / other molecules with C-C bonds (saturated)