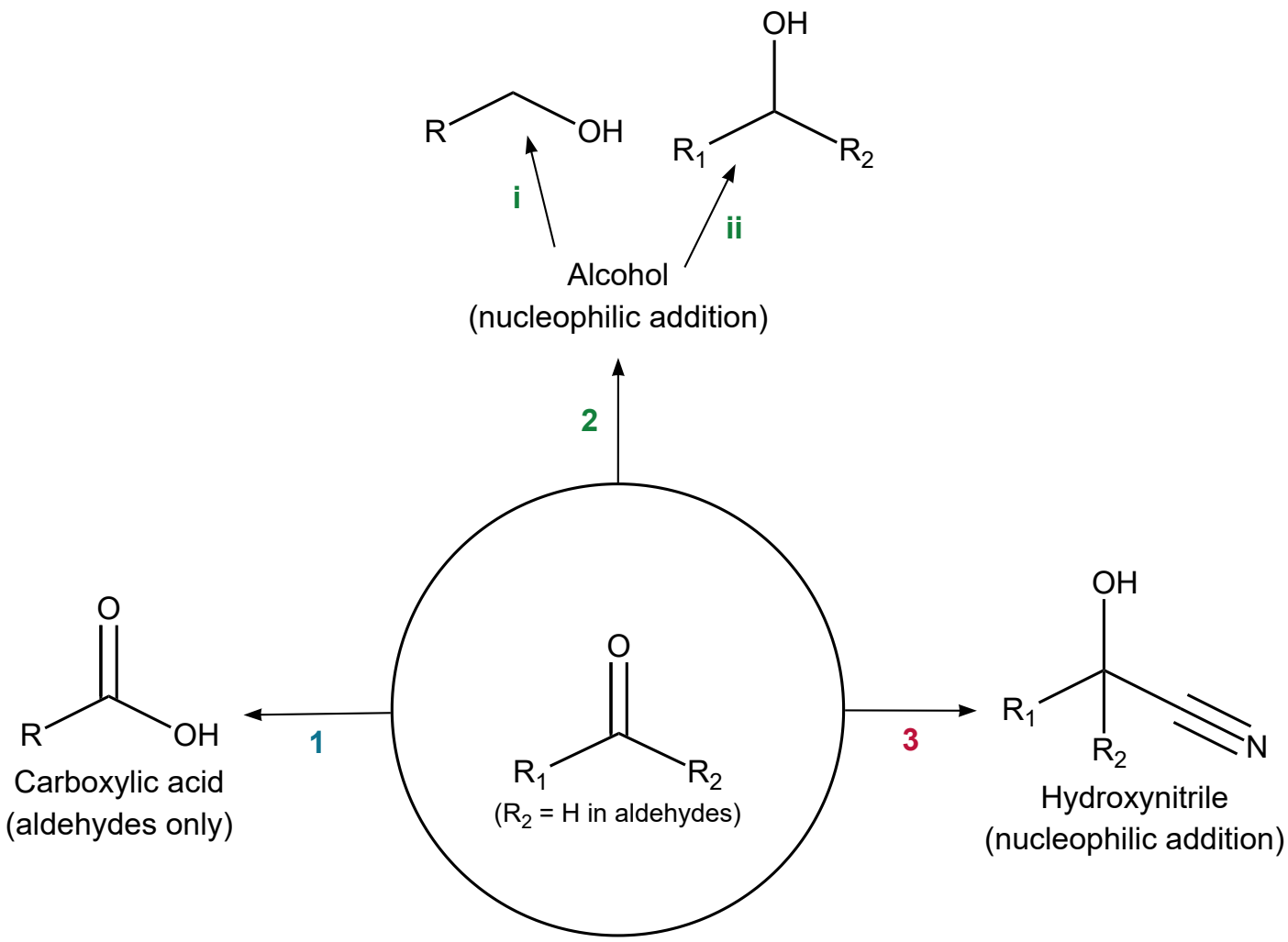
Aldehydes and Ketones Map

OCR A Level Chemistry A · 6.1.2 Carbonyl compounds



1 oxidation: [O]; $Cr_2O_7^{2-}/H^+$ ($K_2Cr_2O_7/H_2SO_4$), heat under reflux; orange → green

2 reduction: [H]; $NaBH_4$(aq), warm
i from aldehydes → primary alcohol
ii from ketones → secondary alcohol

3 addition: HCN [NaCN(aq)/H^+(aq)], room temperature

Test for C=O: 2,4-dinitrophenylhydrazine gives an orange precipitate; its melting point identifies the compound.
Tollens' reagent (ammoniacal $AgNO_3$) gives a silver mirror with aldehydes only.

oxidation reduction addition

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